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CENTENNIAL OF THE AMERICAN MEDICAL ASSOCIATION

BY

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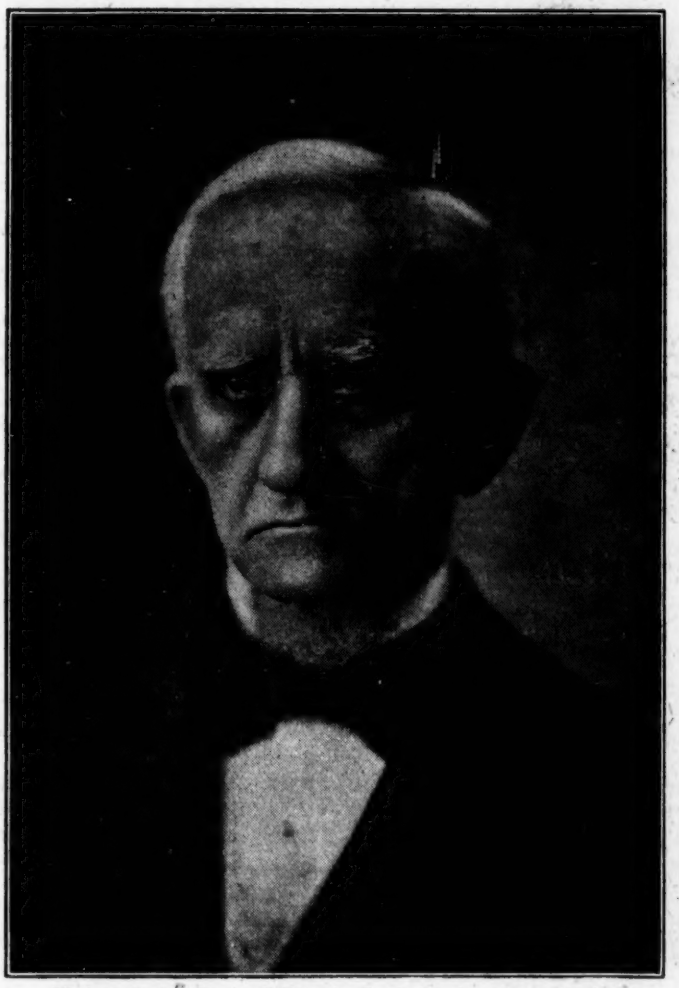
The first meeting of the American Medical Association took place in Philadelphia on May 5, 1847. The ideals and motivations that inspired its founders were a logical development of the thousands of years of tradition which have marked the medical profession through the centuries. The medical practice of 1847 in the United States more closely resembled British medicine than that of any other European nation. Many of its greatest leaders had been schooled in British medical colleges. Indeed, Oliver Wendell Holmes, who served as chairman of the first committee on medical literature, felt that American medicine had followed far too closely its British pattern, and urged the creation in the United States of a distinctive medical literature.



Nathan Smith Davis, "Founder" of the American Medical Association

Ideals and Patterns

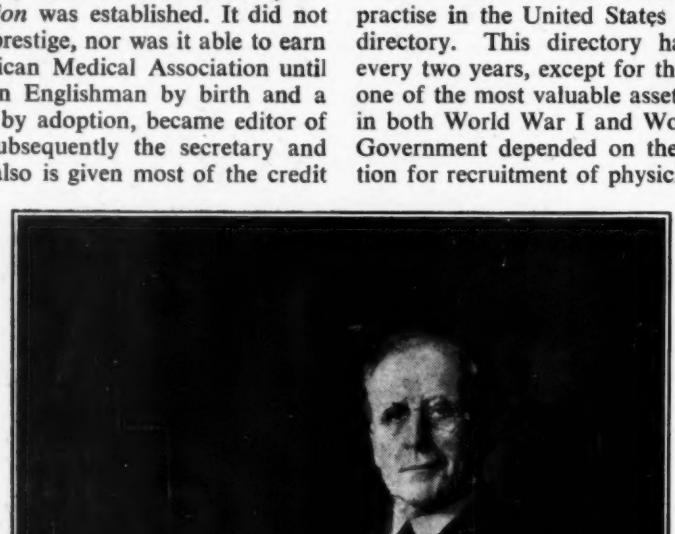
The primary purpose of the American Medical Association was the advancement of medical education. In 1847 schools were mostly owned by groups of physicians who conducted these institutions as a means of enhancing their individual prestige and income. There were no definite standards. Little real progress was made in achieving this objective until shortly after the turn of the century. Up to 1880 the suggestion had been made many times that the American Medical Association be organized according to the pattern of the British Medical Association. However, the suggestion did not fall on fertile soil, and until 1900 the Association continued to be a representative body organized on a somewhat peculiar plan. There were representatives from the medical schools, from such State medical societies as had been organized, and also from other medical societies such as district and tri-State and specialistic groups. A truly democratic organization was established with the reorganization in 1901, at which time representation was definitely limited to the individual States according to the number of members in the State medical society, and each of the scientific sections of the American Medical Association was permitted one delegate in the representative body. In addition a delegate was assigned to each of the medical departments of the armed forces—the Army and the Navy—and also one to the U.S. Public Health Service. For many years attempts were made to obtain some representation for the Veterans Administration. Only following World War II, however, did the Congress of the United States establish the medical department of the Veterans Administration according to a plan resembling that of the medical departments of the Army and Navy; now the Veterans Administration will also be entitled to one representative.

This representative body, known as the House of Delegates of the American Medical Association, is the policy-making body. It determines the principles that govern organized medicine in the United States. All of the officers, employees, and other representatives of the American Medical Association are presumably bound in their official pronouncements to represent the policies established by the House of Delegates.

Journal of the American Medical Association

For many years the American Medical Association met once each year and thereafter published a volume of *Transactions*, including the actions taken by the meeting and the scientific papers that were read. By the second decade, suggestions began to be made that the Association publish a periodical similar to that published by the British

Medical Association. At one time Mr. Ernest Hart, then editor of the *British Medical Journal*, was invited as guest and consulted frequently as to the principles governing such a publication. Eventually in 1883 the *Journal of the American Medical Association* was established. It did not attain great circulation nor prestige, nor was it able to earn much income for the American Medical Association until Dr. George H. Simmons, an Englishman by birth and a citizen of the United States by adoption, became editor of the *Journal* in 1899 and subsequently the secretary and general manager. To him also is given most of the credit for the plan of reorganization and growth of the Association that has taken place since 1900. As an outgrowth of the reorganization plan, the Association developed finally the concept of Fellowship. A Fellow of the American Medical Association is a physician who is a member of a county and State medical society and who then applies for Fellowship in the American Medical Association and subscribes to the *Journal*. To-day the circulation of the *Journal of the American Medical Association* is in excess of 133,000 weekly, and of its subscribers less than half are Fellows of the American Medical Association.



Dr. George H. Simmons

Printing and Other Publications

When Dr. George H. Simmons became editor, and general manager of the Association, he undertook promptly an expansion of its printing facilities. During its first few years the *Journal* was printed by a private printer. Shortly thereafter a typesetting machine was purchased, and from time to time the equipment was expanded so that to-day the Association employs about 350 employees in its printing department. It has many flat-bed presses and four rotary presses, one of which prints 96 pages in six formes and in two colours simultaneously. The *Journal of the American Medical Association* and the special periodicals are all products of the Association's own printing plant. The special periodicals were initiated in 1908 with the *Archives of Internal Medicine*. Shortly thereafter came the *American Journal of Diseases of Children*. The special periodicals now include:

Archives of Internal Medicine
American Journal of Diseases of Children
Archives of Neurology and Psychiatry
Archives of Dermatology and Syphilology
Archives of Surgery
Archives of Otolaryngology
Archives of Pathology
Archives of Ophthalmology
Occupational Medicine

Directory

Early in the 1900's also, the Association found it desirable to maintain it own file of all of the physicians licensed to practise in the United States and determined to publish a directory. This directory has been regularly published every two years, except for the war periods, and represents one of the most valuable assets of the Association. Indeed in both World War I and World War II the United States Government depended on the American Medical Association for recruitment of physicians to meet the needs of the armed forces. The Association had, in fact, the only complete up-to-the-minute file of practising physicians available in the nation. Indeed it is safe to say that few, if any, of the States had biographical files of their own physicians actually in practice. Toward the end of World War II the Government developed a national roster of scientific and trained personnel, but even this effort has already fallen into desuetude.

One more publication of the American Medical Association which represents an important contribution to the advancement of medical science is the *Quarterly Cumulative Index Medicus*. The first complete index of the important medical literature of the world was the *Index Medicus*, founded by John Shaw Billings and continued by Robert Fletcher and Fielding H. Garrison. When this fell on difficult times aid was given by the Carnegie Foundation, which eventually withdrew its support. Previous to that time the American Medical Association had undertaken the *Quarterly Cumulative Index*, which made no pretence beyond the indexing of 400 selected periodicals. With the combination of the *Quarterly Cumulative Index* with the *Index Medicus* came the new publication, which now indexes more than 1,200 periodicals and which represents the most complete index of medical literature of the world thus far attempted. Parenthetically, the annual loss in producing this publication has varied from $30,000 to $60,000.

The Councils of the Association

When the Association found itself confronted with the problem of suitable controls over medical education and with the problem of regulating the advertising of proprietary medicines in its own pages, a pattern of development evolved which has become the usual technique to be followed in solving any of the many great problems that confront the organization. For years there was a Committee on Medical Education which rendered annual reports. In 1905 this committee was established as the Council on Medical Education with a full-time secretary in the headquarters office. This Council undertook to

examine the medical colleges and to establish a minimum standard of medical education. Colleges which met the standard were rated Class A, and others which failed in certain particulars were rated Class B. Those which were found completely inadequate were listed in Class C. Year after year the inspections continued and the ratings were published. There were 165 medical colleges in the United States in 1905. Less than 20% of these were rated Class A at that time. To-day there are 77 medical colleges in the United States, and all of them are Class A. There is one medical school in Class C. The improvement has occurred by elimination of the inadequate schools, the combination of several weaker schools into one strong institution, and the development of new medical schools as departments of great universities. The stimulus to improvement was simply annual publication of the facts to both the medical profession and the public.

Since the right to practise medicine in the United States must be obtained by licensure of a State Licensing Board, the Council on Medical Education also publishes each year the records of the graduates of the individual schools in the examinations by the State Medical Licensing Boards. The publication of lists of those who pass and those who fail has been significant in raising the standards of medical educational institutions. It has also caused the State Licensing Boards to raise their standards of qualification.

Finally, the Council on Medical Education was expanded into the Council on Medical Education and Hospitals. This became necessary because medical education now continues from the medical school into the hospitals in which the young graduates serve their internships and later become residents who will qualify as specialists. The Council on Medical Education and Hospitals lists annually those hospitals which have been found acceptable for the training of interns and residents. Subsequently as a voluntary movement initiated with the Section on Otolaryngology came the establishment of the certifying boards in the various specialties. These certifying boards represent the special societies and the scientific sections of the American Medical Association. The Council on Medical Education and Hospitals establishes a minimum standard for certifying boards. Already more than 30,000 American physicians have obtained the certificates of these certifying boards in the various specialties. One of the present pressing problems of the American Medical Association is the tendency of hospitals to eliminate from their attending staffs men who do not have the certificate of a certifying board.

Drugs and Advertising

Almost immediately following the establishment of the American Medical Association resolutions were introduced condemning the prescribing of patent medicines and nostrums, the adulteration of drugs, and the sale of worthless preparations. Other resolutions condemned physicians who lent the aid of their names and of their prestige to endorsements of such remedies. With the establishment of the *Journal* there came a demand for elimination from its advertising pages of the advertisements of products with secret composition or sold with exaggerated claims. In 1905 the Council on Pharmacy and Chemistry was organized to investigate and report on medicinal products offered to physicians. In 1906 a chemical laboratory was established in the headquarters office as an adjunct to the council. Products which meet the standards of the Council on Pharmacy and Chemistry are permitted to display on their labels a shield-shaped emblem with the words, "Accepted, American Medical Association, Council on Pharmacy and Chemistry."

The home of the American Medical Association, Chicago

The work of the Council on Pharmacy and Chemistry is conducted without any charge to any manufacturer. In fact, the Association pays for all of the work of its councils and bureaus from the dues of its Fellows and the profits on its publications.

The Council on Pharmacy and Chemistry publishes each year a book called *New and Non-official Remedies*, which lists all of the newer products not yet admitted to the United States Pharmacopoeia, with methods of identification and statements concerning their actions and uses. The council publishes also an *Epitome of the Pharmacopoeia* with criticisms of products in the *Pharmacopoeia*, and also a book called *Useful Drugs*, containing some 250 drugs and preparations which form the basis of teaching in materia medica and pharmacy in most medical schools.

The pattern of the Council on Pharmacy and Chemistry proved so successful that subsequently a Council on Foods and Nutrition was established, which deals with food products, and the Council on Physical Medicine, which is concerned with apparatus such as the ultra-violet, diathermy, infra-red, hydrotherapy, and massage equipment.

Practically all of the State Medical Societies likewise limit their advertising to accepted products. Many of the periodicals published by special medical societies also limit their advertising. This has been one of the most effective activities of the organization.

The next council to be established was known as the Council on Health and Public Instruction. This council was formed with the concept of achieving another objective of the Association—namely, education of the public regarding health and disease and the encouragement of legislation for the improvement of the public health. This council established a speakers' bureau, a special committee to deal with legislation, a division to assemble the law as related to the public health and the practice of medicine in the United States. It developed committees dealing with such special topics as ophthalmia neonatorum, cancer, tuberculosis, and the care of the Indians. Eventually its health educational activities were assigned to a new Bureau

of Health Education in the headquarters office, to a Bureau of Legal Medicine and Medical Legislation, to the publication of *Hygeia*, the health magazine of the American Medical Association which now has a circulation in excess of 200,000 subscribers, and to other agencies. *Hygeia*, the health magazine, is now published as a part of the editorial functions of the Association.

As the interest grew in the field of industrial medicine, a Council on Industrial Health was established.

The most recent of the Councils is the Council on Medical Service, which is concerned with the development of voluntary insurance against the costs of hospitalization and of sickness. In association with this council there is a Bureau of Medical Economic Research and the information bureau maintained in Washington, D.C., the national capital.

Another bureau of the Association is the Bureau of Exhibits, which arranges not only for the scientific exhibit at the annual sessions of the American Medical Association but for similar exhibits at the meetings of the State Medical Societies and at meetings of voluntary philanthropic organizations in the field of health and other exhibits of medical interest. It has taken part in the encouragement of the establishment of health museums, of which there are now about six in the United States.

Quackery

Quackery is perennial. The charlatans have preyed on the public in the field of disease and health since the beginning of time. As the *Journal* began to gain prestige it undertook to expose from time to time various charlatans who had achieved great followings in the United States. As a result of these exposés the *Journal* and its editor have been sued for libel—the total number of such suits approaching 40 and the total amount of damages sought being more than $30,000,000. The *Journal* has gone into court at least six times, since it has never compromised or settled a libel suit. In only one instance did it ever have an unsatisfactory verdict, and in that instance the award to the plaintiff, who was a manufacturer of an alcoholic nostrum for women, was one cent in damages.

Research

Early in its career the American Medical Association offered prizes for essays and other literary contributions to the advancement of medical knowledge. As its funds began to accumulate, the number and the value of these prizes increased. As each of the councils was established, funds were made available for encouraging research, and the Association established also a Committee on Scientific Research, which makes grants to medical investigators. The Association has spent more than $1,500,000 for such research during the last forty years and has set aside $2,000,000, the income of which is regularly used for research.

The single room with four employees which represented the headquarters of the American Medical Association in 1899 has grown to a building of half a block in width and almost a block in length, in which more than 700 employees carry on their activities. For these employees the Association has established hospitalization insurance and insurance against the costs of surgery or catastrophic illness.

Early in its career the American Medical Association recognized the importance of the State in the development of preventive medicine and public health. More than any other organization it has the credit for the development of the State Health Departments and of the United States Public Health Service. It has co-operated with every voluntary health agency in assuring adequate return for the funds contributed by the people in promoting research and in education both of the public and of the medical profession regarding tuberculosis, cancer, blindness, deafness, paralysis, heart disease, and the work of the Red Cross in disaster and catastrophe. Some of its special campaigns have led to the elimination of the hazards of fireworks and gunpowder in celebration of the Fourth of July. It has led in the campaign against motor accidents and the provision of first aid when such accidents occur. It has carefully recorded the progress of the campaigns against death from typhoid and diphtheria. It has stood as the bulwark of medical science against the vast army of the ignorant, the stupid, and the fanatic, the antivivisectionists, the antivaccinationists, the antimedical science groups. All of these functions it has carried on with never an appeal for funds from any agency outside the medical profession itself, never an appeal to any other agency than the medical profession itself to eliminate the evils and misrepresentations. Always it has been the pride of Medicine that it has cleaned its own house; that it has recognized its obligations; that it has met every crisis in its career with its eyes set on greater goals for the good of mankind than have been its objectives in the past.

THE SULPHONE TREATMENT OF LEPROSY

BY

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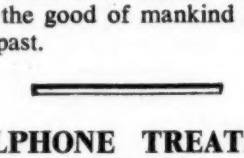
The drugs commonly known as sulphones are derivatives of diaminodiphenyl sulphone.



It was their antibiotic effect in controlling the growth of *M. tuberculosis* in experimental animals and *in vitro* (Feldman *et al.*, 1942; Petter and Prenzlau, 1944) that first suggested trial in leprosy. Strangely, they have so far shown much more evidence of usefulness in leprosy than in tuberculosis.

The sulphone derivatives which have so far been tried in leprosy are "promin" (U.S.A., "promin"; in England, "promanide") (diaminodiphenyl sulphone-*nn*-didextrose sulphonate), "diasone" (disodiumformaldehyde sulphoxylate of diaminodiphenyl sulphone), "promizol" (2,4′-diamino-5-thiasolylphenyl sulphone), and "sulphetrone" (tetrasodium phenylpropylamino-diphenyl-sulphone tetrasulphonate). Promin was first used in the National Leprosarium, Carville, U.S.A. (Faget *et al.*, 1943). It was found to be excessively toxic by oral administration but to be tolerated intravenously in daily doses up to 5 g. Following on the first published results on promin, Muir (1944) began a trial of diasone in Trinidad. Fearing that diasone might be toxic by mouth like promin, he first gave it intravenously, but later found that it was well tolerated orally in daily doses up to 2 g. A more recent sulphone derivative, promizole, is considered by the Carville workers (Faget, Pogge, and Johansen, 1946) to give possibly even better results than the first two preparations, though it has not yet been tried out sufficiently. This can be given orally in daily doses up to 6 g. Lastly, sulphetrone (B.W. & Co.) is under trial, and the first reports indicate promising results.

The results obtained with these sulphones appear to be similar, though they may vary in the degree of toxicity, the amount of the effective dose, and the speed of results.

Mode of Administration

Suitable Type of Case.—It is the lepromatous or severe type of leprosy to which sulphone treatment has been applied—that is to say, the type which so far has been least amenable to treatment by chaulmoogra and other drugs. I have had no experience with sulphones in tuberculoid and uncharacteristic cases, nor have I seen any published results in these types.

Toxic Effects.—Faget *et al.* (1943) mention the following toxic signs as occurring: decrease in blood cells, leucopenia, allergic dermatitis, allergic rhinitis, mild and ephemeral headaches and nausea, and lepra reaction including iridocyclitis. Further observation has, however, shown that with suitable dosage most of these can be avoided. In my experience anaemia (chiefly due to destruction of red cells) and increased reactionary exacerbations are the two toxic indications to be guarded against, and these are apt to occur principally in patients in poor general health and/or in an advanced stage of the lepromatous type, and in the initial stages of treatment. Before beginning treatment the patient should be examined for anaemia, and when this is present, as it often is in severe lepromatous cases, a preliminary course of full doses of ferrous sulphate or carbonate should be given.

Dosage.—My own experience has been chiefly with diasone (Muir, 1944, 1946), and the dosage here described is what is recommended in the use of this drug. Considerably higher doses have been used with promin and promizole (Faget *et al.*, 1943, 1946). It is advisable to begin with small doses in all cases, and gradually raise the amount according to the tolerance of the patient. In doing this the important indications are: the stage of the disease; the general condition of the patient, especially as regards febrile and focal reactionary signs; the condition of the blood; and the presence of anaemia. If the haemoglobin percentage is below 70 a preliminary course of iron should be given, and if this is not effective injections of liver extract should be added.

Diasone is generally made up in 5-gr. (0.32 g.) capsules or tablets. When the haemoglobin is at or over 70%, begin with 1, 2, or 3 tablets according to the general condition of the patient. This should be taken in one undivided dose, preferably an hour after food, so as to promote quick absorption and the highest blood concentration. Reactionary signs are not a contraindication to beginning the treatment, but are a warning not to raise the dose too rapidly. Whatever the initial dose, repeat it every second day for the first week unless they are signs of exacerbation. In strong early cases without septic or other complications one tablet may be added after the first week on the intermediate days and increased gradually till, after three or four weeks, the patient is taking 3 tablets daily for six days a week. It may, however, be a considerable time before a weaker or more advanced case reaches this dosage. The haemoglobin should be tested every week to begin with and iron (and if necessary liver extract) continued in all cases with a percentage below 80 or 90. A fall below 70% or the intercurrence of increased reaction calls for temporary suspension of diasone or diminution of the dose. When a dose of 3 tablets a day for six days a week has been reached it is well to suspend treatment for one week every month. Apparently when full dosage is suddenly resumed after this temporary stoppage the blood concentration rises to a higher level for a time. In patients who have improved and are free from signs of anaemia and reaction the dose may be gradually raised to 6 tablets daily six days a week for three weeks a month—this being regarded as the maximum average dose, though it may be increased or diminished according to the body weight of the patient.

Effects of Treatment

These vary according to the stage of the disease. In a severe advanced lepromatous case with ulcerating leproma of the limbs, ulceration of the nasal and other mucous membranes with obstruction of breathing, and with severely affected eyes going on to blindness, the first effects, which often take place within a few weeks, are the healing of ulcers, clearing of the nose, and arrest of the eye condition with improved vision.

The next effect is seen in patients with chronic or subacute allergic reactions indicated by slight rise of temperature and/or the frequent appearance and subsidence of nodules and other inflammatory skin lesions; these symptoms gradually subside. At the same time permanent nodules and other raised skin elevations become slowly absorbed and flattened out, leaving marked wrinkling of the integument. This improvement generally requires a few months.

The third stage in recovery, and the only one in early or less advanced cases, is the gradual lessening of the number of bacilli found in sections and smears from the skin and in smears from the nose. Thus three-plus cases become two-plus and then one-plus, and one-plus cases become negative. The time required for this appears to vary with the advancement of the disease: some early cases have become negative in four to six months, but more advanced cases may require four, five, or even more years. One of the most striking signs of improvement is that seen in the affected eye and especially in the cornea, where, because of its transparency, the arrest and a certain amount of recession of the lepromatous infiltration can be observed with a lens or corneal microscope.

There is one important point on which evidence is not yet available—that is, whether or not a point is reached at which the type changes, the lepromatous case being transformed into a tuberculoid one with a negative "lepromin" test becoming positive. Theoretically the lepromin test is negative in the lepromatous case because the antigen (i.e., lepra bacilli) are in such great excess of antibodies formed that an effective allergic reaction, which would destroy the bacilli, cannot take place. As the bacillary antigen becomes less and less, is a point reached at which an effective reaction can take place? If so, it would be indicated by a positive lepromin reaction, and we should have an additional factor helping to clear up the residual bacilli. I have found indications in one or two cases that this may occur to some extent, but further evidence is needed.

Length of Treatment

In any case, treatment should be continued at least until repeated bacterioscopic examinations have given negative results over a period of six months to two years, varying directly with the advance of the disease at the beginning of treatment, and with the length of treatment required to produce the first negative bacterioscopic results. Faget (1947) reports that "19 promin-treated patients have been discharged as disease-arrested following twelve consecutive months of negative bacterioscopy. Of this number three were under treatment for 1½ to 2 years, three from 2 to 3 years, six from 3 to 4 years, and seven from 4 to 5 years. There have been no relapses. . . . The period of

observation following arrest of the disease has varied from a few months to 2½ years."

Iodides have a specific effect in showing up concealed lepromatous foci. It is possible that their careful administration in cases that have become bacterioscopically negative may be of use in determining the length of further treatment required, and perhaps in speeding up the elimination of residual foci; but this matter still calls for very careful investigation.

Regulation of Established Treatment.—Particulars have been given of the dangers attending the initial treatment with diasone. But once the patient has taken his maximum dose for a few months without diminution of haemoglobin content or reactionary symptoms, and has made definite improvement as regards both leprosy and in his general health, the same precautionary methods cease to be necessary and treatment may be continued by an intelligent and reliable patient with a minimum of supervision. A visit by the doctor once a month is often all that its needed. This fact is particularly helpful to patients under domiciliary treatment.

Mode of Action

It is still uncertain how the sulphones act. Fite and Gemar (1946), after examination of biopsy sections from 32 patients under promin, concluded that tissue changes are "atrophic in character with extremely slow and gradual lessening of numbers of organisms in the lesions to the point of final disappearance in 10 of 32 cases examined. . . . The important finding is that promin appears to eliminate bacillary infection of the blood vessels and blood stream, thereby preventing the formation of new lesions. The atrophy of focal lesions is also more apparent in areas with a more generous blood supply. The results indicate strongly that the best results may be expected in those cases in which treatment is begun in a comparatively early stage of the disease."

A satisfactory hypothesis is as follows. Ordinarily in lepromatous cases the cellular ingestion of bacilli and their multiplication in the cytoplasm result in the formation of "globi," the rounded masses of bacilli found in all typical lepromatous cases. The global bacilli gradually die and are transformed into a non-acid-fast lipoid matrix which imbeds the still acid-fast bacilli. Thus in untreated cases the living bacillary element in a globus gradually becomes extinct, and its place is normally taken by fresh globi. It may be supposed that the sulphones act not by destroying bacilli but by preventing the multiplication of bacilli and the formation of fresh globi.

If this hypothesis is correct it would account for: (*a*) The finding of globi in smears from the nose and skin of treated patients, in which there are no acid-fast bacilli or in which the bacilli are thin and ghost-like (*b*) The long time required in the clearing up of bacilli in fairly advanced cases. This will be made clear when it is mentioned that human leprosy bacilli, killed by boiling and injected into rats, can still be found retaining their acid-fastness after 18 months.

The Future of Sulphone Treatment

The history of leprosy in the last 30 or 40 years is strewn with the wrecks of so-called "cures." Knowing this, one is hesitant to put forward claims for the sulphones which might fail to be confirmed. It will take years before we can say with any confidence what the final results are, whether a complete and lasting cure is possible, what is the relapse rate, and whether relapsed cases will yield to further courses of treatment.

Confidence is given, however, by the fact that experienced workers all over the world who have carried out the initial trials have without exception obtained favourable results such as they had never before found with other remedies. Many have reported definite improvement in practically all cases that have been under treatment for at least six months.

The history of a rising scale of effectiveness in other drugs, such as the sulphonamides, gives reason for hope that sulphone derivatives may be produced which will give even more rapid and effective results.

Sulphones and the Anti-leprosy Campaign

The Supply of the Drugs.—Few of the countries where leprosy is rife are wealthy, and the patients who require treatment most are as a rule the poorest of the poor. In a campaign against leprosy there is, therefore, need for a drug which is not only effective but which can be made available to the poorest patient in countries like Africa, India, and China.

Fortunately the raw material of the sulphones is not expensive, and although the outlay on manufacture must at first be considerable the cost should rapidly diminish with mass production. It is calculated that 1,000 5-gr. (0.32-g.) tablets of diasone should, on an average, suffice for one patient for one year, and the present cost of this is in the region of £6. If treatment is to be extended to a gradually increasing proportion of the one or two million lepromatous cases calculated to exist in the world, there will be a considerable call on the budgets of governments, and on the generosity of philanthropic bodies.

Effect on Control.—The two chief difficulties in the control of leprosy have been: (*a*) open infectious cases, through ignorance, fear, and shame, or want of opportunity, are not isolated until they have had a chance, often lasting several years, of spreading the disease to their relations and other contacts; (*b*) that the treatment available has been painful and hard to persist with over a long period and, even when persisted with, has in the majority of lepromatous cases been unable to arrest the disease.

It may be expected that once the effects of sulphones become widely known they will attract early cases which would otherwise have concealed the disease as long as possible. Thus to a gradually increasing extent the danger of infection should be cut off at its source.

Need of Personnel.—One of the chief difficulties in anti-leprosy work has always been the lack of doctors. In the medical profession there has been a prejudice against leprosy, either on account of fear or because it was considered that so little could be done for it. In Brazil the Government offers an extra allowance beyond the ordinary service rates. But the best work has always been done by those who have felt they have a vocation, and many such doctors and other workers, once they have overcome the prejudices which surround the subject of leprosy, have become enthralled by the interest of the work. Now that there is a clearer prospect of effective treatment and control, it is to be hoped that more doctors with a pioneering and venturesome (not to say philanthropic) spirit will offer to do this work.

Summary

The sulphones have been found of definite benefit in the severe or lepromatous type of leprosy, clearing up complications, causing a slow but steady diminution of the bacilli, and in some cases bringing about arrest of the disease.

The method of administration of diasone, its possible mode of action, and length of treatment are given in detail.

The effects of sulphone treatment on the campaign against leprosy, the supply of sulphones, and the need of suitable personnel are discussed.

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TROPICAL EOSINOPHILIA IN EAST AFRICA

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The syndrome now generally known as tropical eosinophilia or eosinophilic bronchitis was first described by Frimodt-Möller and Barton (1940) in Southern India. Under the title "a pseudotuberculosis associated with eosinophilia" they published an account of a syndrome characterized by cough, fever, and loss of weight which ran a prolonged but comparatively benign course. There was a fairly constant similarity in the radiographs of these patients, the characteristic picture showing extensive mottling of both lung fields, resembling somewhat miliary tuberculosis or silicosis. Blood counts revealed a high degree of eosinophilia, and in over half the patients examined 5,000 or more eosinophils per c.mm. were found.

Weingarten (1943) recorded 81 cases of tropical eosinophilia. He found that expiratory dyspnoea was a prominent symptom and that the spleen was often enlarged. After trying various remedies without success he discovered that dramatic improvement resulted from a short course of neoarsphenamine. Further cases were described in India by Simeons (1943), Treu (1943), Menon (1945), and others, while a similar condition was reported from Ceylon by Carter, Wedd, and d'Abrera (1944), Carter and d'Abrera (1946b), and Soysa and Jayawardena (1945). The Ceylon workers discovered mites of various genera in the sputum of more than half their cases, and considered that tropical eosinophilia might "in part at least be explained on the basis of a mite infestation of the respiratory system." Treatment by inorganic arsenicals was found to be effective with neoarsphenamine and "acetylarsan" by injection, and acetarsol or carbarsone by mouth.

While tropical eosinophilia can no longer be regarded as a rare disease in India and Ceylon, its existence in Africa has not yet been generally recognized. Isolated cases have, however, been recorded by Parsons-Smith (1944) and Stephan (1946) in Cairo, while Ritchie (1944) described the condition in a Tanganyika native serving in the Middle East Forces and Hunter (1946) in a European recently returned from West Africa. The present communication describes an investigation carried out in Dar-es-Salaam, Tanganyika. Differential white counts were performed on a consecutive series of 34 patients attending the native civil hospital with symptoms of recurrent bronchitis or asthma. The patients were all males, and consisted of 29 Indians, four Africans, and one Arab. In 28 cases an eosinophilia of less than 20% was found, while in six cases the eosinophilia ranged from 40 to 78%. The latter group, and a seventh case which was referred on account of an unexplained eosinophilia, were submitted to detailed investigation. All were considered to be suffering from tropical eosinophilia; six were treated successfully with arsenic, while the condition regressed spontaneously in the seventh case.

Clinical Findings

The characteristic picture appeared to be recurrent attacks of cough, wheezing, and low fever separated by intervals in which the only symptom was a spasm of unproductive coughing in the early hours of the morning. In four cases retrosternal pain was present, and three complained of acute irritation of the larynx and upper respiratory tract. After a variable number of attacks the intervals of freedom became shorter, and cough and dyspnoea caused increasing distress. Early cases showed no constitutional symptoms, but those who had been ill for several months complained of lassitude, anorexia, and loss of weight. Case VII conformed to the clinical type described by Frimodt-Möller and Barton as "pseudotuberculosis." That patient complained of chronic cough, pain in the chest, and occasional small haemoptyses without asthmatic attacks.

X-ray Findings.—In three cases no abnormality was seen. In Cases VI and VII there was diffuse mottling of both lung fields, characteristic of the "eosinophil lung pattern," and a suggestion of mottling was seen in the radiographs of Case IV. These cases gave a history of one year's, two years', and ten months' duration respectively.

Pathological Findings.—(a) Haematological.—An initial blood count was done on all cases by Dr. Vivarelli. The red cells varied from 4,650,000 to 5,150,000 per c.mm. and the haemoglobin from 94% to 110% (Lovibond)—comparatively high figures in a country where anaemia is prevalent. Leucocytosis was a constant finding, counts ranging from 11,250 to 34,000 cells per c.mm., with an eosinophilia of 52–78%. Except for an occasional eosinophil metamyelocyte no immature cells were seen; the granules varied in size and tended to be larger than normal; they frequently did not fill the cell, and left spaces like vacuoles in films stained by the Leishman method. Whitby and Britton (1942) noted a similar appearance of the cells in eosinophilic leukaemia. Differential counts were repeated two or three times weekly on 200–400 cells, and the percentage of vacuolated cells was seen to diminish in the course of treatment. The blood sedimentation rate was estimated by Westergren's method in three cases; in one case it was raised to 47 mm. after 1 hour, but in the other two cases it was within normal limits. Films from all patients were examined for filariae, but none were found.

(b) Urine and Stool Examinations.—No abnormality was found on naked-eye or microscopical examination of the urine, and specimens of stools were negative for parasites, except in Cases V and VI, in which a few ankylostome ova were discovered by concentration methods. In both cases a rise in the total eosinophils was found when the blood was re-examined after deworming.

(c) Sputum.—Specimens were repeatedly examined for tubercle bacilli, but none were found. Sputum from Cases II–VI was examined by Dr. Vivarelli for mites by the method described by Soysa and Jayawardena. Twenty-four-hour specimens were collected into sterile stoppered bottles, and the mucopurulent material was disintegrated with 10% potassium hydroxide. After it had cleared, enough formalin to give a 10% concentration was added and the liquid left for 24 hours. It was then centrifuged and the deposit systematically examined under the microscope. Four mites of *Tyroglyphus* and a few ova were found in specimens from Case II, one mite of *Tyroglyphus* in Case VI, and an unidentified mite in sputum from Case IV. No mites were found in sputum from Cases III and V.

Treatment

Case II was treated with weekly injections of neoarsphenamine; in the other cases it was intended to follow the method advocated by Soysa and Jayawardena. They gave carbarsone or acetarsol 0.25 g. twice daily until clinical cure had been obtained and the eosinophils had fallen to a satisfactory level. Using this method, it was found that a Jarisch-Herxheimer type of reaction occurred between the second and fifth days. This consisted in a brisk exacerbation of symptoms, usually accompanied by some rise in temperature. After two or three days rapid clinical improvement began, with complete and apparently permanent disappearance of symptoms during the next 5 to 10 days. The haematological response was much slower, and the original intention of treatment by a prolonged course of acetarsol was abandoned in favour of a 10- or 12-day course of acetarsol or carbarsone followed, after an interval, by weekly injections of neoarsphenamine. It was found that there was a fairly rapid fall in the eosinophils during the first four or five weeks of treatment, but after this no significant fall occurred until after treatment had been discontinued. Case V was given a 10-day course of carbarsone and four injections of neoarsphenamine, treatment being abandoned when the eosinophil count was still 29%. Two months later the eosinophils had fallen to 4% (a total of 248 per c.mm.). Case I was of equal severity and Case III was practically asymptomatic. Both were given considerably more arsenic without a more rapid clinical or haematological response being obtained.

In Case II, which was treated with neoarsphenamine alone, the clinical response was slower, but the haematological response was approximately the same as in the other cases.

Case I

An Indian aged 24 had had a cough, retrosternal pain, and a low fever for two to three weeks which were not improved by sulphapyridine and expectorants. On June 2, 1945, the temperature was 99° F. (37.2° C.), the blood pressure 135/95. Sonorous rhonchi were heard in all areas of the chest and moist rales at both bases. A blood count showed: red cells, 5,350,000; haemoglobin, 110%; colour index, 1.02; white cells, 34.000 (polymorphs, 7.5%; lymphocytes, 24.5%; eosinophils, 66%; eosinophil metamyelocytes, 2%). Most of the eosinophils appeared vacuolated. In three specimens of sputum tubercle bacilli were not found; nothing abnormal was observed in the urine, and no ova or parasites were present in three samples of stools. A skiagram of the chest revealed no abnormality.

On June 4 treatment was begun with acetarsol 0.26 g. twice daily by mouth. On the third day there was a sharp rise in temperature which lasted three days and was followed by rapid clinical improvement. By June 17 he was symptom-free, and ten days later his chest was entirely clear. On June 28 acetarsol was discontinued after 50 tablets (13 g.) had been taken. His white blood cells numbered 11,000 (37% eosinophils). In the course of the next six weeks he was given carbarsone, 0.5 g. daily for five days, followed by four weekly injections of neoarsphenamine (one of 0.6 g. and three of 0.75 g.). On Aug. 18 his white count was 9,600 (19% eosinophils). On Oct. 23 it was 7,176, with no eosinophils. He remained in good health.

Case II

An Indian aged 18 had had recurrent attacks of cough for 12 months. Originally dry, the cough had become productive in the last six months, and later he had coughed up large quantities of mucopurulent sputum. Retrosternal pain and increasing dyspnoea had caused him considerable distress, and he had been unable to work for several months. He had had in-patient and out-patient treatment without improvement.

Examination on June 4 showed him to be a thin and dejected individual, very distressed by continuous dyspnoea and constant spasms of coughing. The temperature was 99° F. (37.2° C.). Chest expiration was prolonged and loud sonorous rhonchi were heard all over both lungs. The spleen was enlarged 3½ in. (8.9 cm.) below the costal margin. The Wassermann reaction and Kahn test were negative. A skiagram of the chest revealed no abnormality. Examination of the urine and stool showed nothing abnormal. Tubercle bacilli were not found in five specimens of sputum. A blood count showed: red cells, 4,660,000; white cells, 13,750 (P., 25%; L., 19%; E., 56%). A sternal puncture gave the following readings: neutrophil polymorphs, 15%; eosinophil polymorphs, 35.2%; basophil polymorphs, 1%; neutrophil metamyelocytes, 5%; eosinophil metamyelocytes, 18%; neutrophil myelocytes, 1.2%; eosinophil myelocytes, 8%; neutrophil premyelocytes, 0.4%; eosinophil premyelocytes, 1%; eosinophil myeloblasts, 1%; normoblasts, 7.2%; erythroblasts, 1.2%; macropolycytes and megakariocytes, 0.6%; mitotic cells, 0.4%. The blood sedimentation rate (Westergren) was 47 mm. after one hour, 56 mm. after two hours.

The patient was given eight weekly injections of neoarsphenamine (0.15 g., 0.3 g., 0.6 g., and five of 0.75 g.) beginning on June 7. Four mites of *Tyroglyphus* were found in a 24-hour specimen of sputum collected after the first injection had been given, and a few ova were seen in a specimen collected a week later, but no further adults or larvae. There was an increase in symptoms after the third and four injections, but his clinical condition then steadily improved. By July 28 he was asymptomatic and gaining weight, his total leucocyte count had fallen to 8,000, with 16% eosinophils, and his B.S.R. to 26 mm. after one hour.

He was seen again in August, when he complained that he was still getting attacks of asthma. He was repeatedly examined, but no abnormality was found in his chest, and his eosinophils had fallen to 10%. Arrangements were made to readmit him to hospital for observation, but he failed to return.

Case III

An African clerk aged 25 was first seen on May 22, when a large number of eosinophils were found in a blood film while he was suffering from an attack of malignant tertian malaria. He was otherwise well except for a slight dry cough. The white cells numbered 8,000 (P., 26%; L., 19%; M., 1%; B., 2%; E. 52%). Nothing abnormal was found in the urine, and no ova or parasites were present in the stools on seven consecutive days. The white cell count on June 6 was 15,800 (P., 10%; L., 18%; M., 0.5%; B., 1%; E., 69%; eosinophil metamyelocytes, 1.5%)—15% of the eosinophils showed cytoplasmic vacuolation. The B.S.R. (Westergren) was 9 mm. after two hours.

Clinical examination was negative except for a slight splenic enlargement which might have resulted from the malaria. He was given 0.26 g. of acetarsol twice daily for 15 days, starting on June 14. After two days his cough increased and a small quantity of sputum was expectorated. This was collected and examined for mites, but none was found. He was entirely free from cough three days later, but his eosinophils still numbered 46% at the end of the course. After two weeks' interval he was given six weekly injections of neoarsphenamine (one of 0.6 g. and five of 0.75 g.). On July 19 the blood count showed 6,200 white cells, with 12% eosinophils. On Oct. 18 his white cells numbered 6,000 (P., 51%; L., 40%; M., 2%; B., 1%; E., 6%). He has remained in good health.

Case IV

An Indian clerk aged 32 complained of recurrent attacks of dry cough for 12 months. The cough usually woke him in the early morning. In the past four months attacks had grown more frequent and more severe, and expiratory dyspnoea had become increasingly troublesome. Treatment had not given him any relief.

On examination on June 11 expiration was prolonged and a few rhonchi were heard at the right base and a patch of inspiratory rales at the left base. The white cells numbered 11,250 (P., 15%; L., 7%; E., 78%). The B.S.R. (Westergren) was 5 mm. in one hour. Examination of the urine and stool revealed no abnormality. A skiagram of the chest showed faint mottling of both lung fields. A course of acetarsol 0.26 g. twice daily was begun on June 12. Three days later his symptoms became so severe that he abandoned treatment for fou

days, resuming it on June 19. Sputum was collected at the beginning of the exacerbation and one unidentified mite was found on microscopical examination. The following day he was symptom-free, and three days later his chest was clear on clinical and *x*-ray examination. Treatment was discontinued after a total of 50 tablets (13 g.) had been taken, the eosinophils at this time numbering 21%. In view of his high eosinophil count he was given five weekly injections of neoarsphenamine, starting on June 12 (0.6 g. followed by 0.75 g.). On July 28 his white cells numbered 8,600, with 13% eosinophils, and on Oct. 23 they had fallen to 6,240 (P., 85% ; L., 10% ; M., 3% ; E., 2%). He remained fit, and stated that he was now feeling thoroughly well for the first time for over 12 months.

Case V

An African cook aged 24 complained of continuous dry cough since an attack of acute bronchitis a month previously. During the last two days his acute symptoms had recurred with cough, wheezing, and fever. On examination the temperature was 99.8° F. (37.7° C.). Numerous rhonchi were heard all over the chest, and a patch of leathery rales at the left base. Neither tubercle bacilli nor mites were found in the sputum. The urine was normal. A few ankylostome ova were found in the stools by concentration methods. A radiograph of the chest revealed no abnormality. The white blood cells numbered 14,600 (P., 20% ; L., 15% ; M., 1% ; B., 1% ; E., 63%). He was dewormed with chenopodium and tetrachlorethylene, and a blood count on July 9 showed : red cells, 4,650,000 ; haemoglobin, 94% ; colour index, 1.01 ; white cells, 20,000 (P., 11% ; L., 25% ; M., 2% ; E., 62%). Treatment was begun on July 9 with carbarsone 0.25 g. twice daily for 10 days. On the fifth day the cough and sputum increased and the eosinophils rose to 83%. All sputum was systematically searched for acari, but none was found. By July 19 he was symptom-free and his chest was clear, but his eosinophils numbered 75%. He was given three injections of neoarsphenamine (0.6 g., 0.75 g., and 0.75 g. at weekly intervals). The eosinophils fell to 29% at the end of treatment, and on Oct. 24 the white cells numbered 6,240 (P., 65% ; L., 25% ; M., 6% ; E., 4%). He stated that he had had no cough since the beginning of the treatment and that his general health was better than it had been for many months.

Case VI

An African night-watchman complained of continuous dry cough with recurrent acute attacks of cough, wheezing, and pain in the chest for the last ten months. He asked to be admitted to hospital, as an acute attack had begun two days previously.

When examined on July 10 his nutritional state was poor and there was marked dyspnoea, with rhonchi all over both lungs. The urine was normal. A few ankylostome ova were found in the stools by concentration methods. A blood count showed : red cells, 4,590,000 ; white cells, 8,750 (P., 30% ; L., 30% ; E., 40%). He was dewormed with chenopodium and tetrachlorethylene, and a blood count on July 28 showed: red cells, 4,650,000 ; haemoglobin, 95% ; colour index, 1.02 ; white cells, 19,600 (P., 11% ; L., 13% ; M., 1% ; E., 75%). A skiagram of the chest showed mottling of both lung fields typical of the "eosinophil lung pattern." Treatment was begun on July 28 with acetarsol 0.26 g. twice daily for 12 days. On the fifth day he became extremely dyspnoeic and his temperature rose to 101° F. (38.3° C.). Sputum was examined during the acute phase and one mite (*Tyroglyphus*) was found. By Aug. 6 the patient was symptom-free and his chest was clear. The course of acetarsol was followed after a short interval by eight weekly injections of 0.6 g. of neoarsphenamine. Throughout treatment an eosinophilia persisted, counts varying between 28% and 50%, but on Oct. 28 his white cells numbered 8,250 (P., 50% ; L., 44% ; M., 3% ; E., 3%), and skiagrams showed considerable clearing of the mottled pattern. Two months later he was still fit and had had no recurrence of symptoms.

Case VII

An Arab stone-mason aged 30 complained of chronic cough with occasional small haemoptyses. The first attack began 2 years 3 months before and had lasted 10 months. It was followed by 10 months' freedom ; then the present attack began 7 months previous to admission.

When examined on July 31 he was afebrile, expiration was slightly prolonged, and there were numerous coarse rales at both bases. Tubercle bacilli were not found in three specimens of sputum, and no parasites were discovered in three stool specimens. A skiagram of the chest revealed diffuse mottling of both lung fields typical of the "eosinophil lung pattern." A blood count showed : red cells, 4,950,000 ; haemoglobin, 98% ; colour index, 0.99 ; white cells, 22,300 (P., 16% ; L., 20% ; M., 1% ; E., 62% ; eosinophil metamyelocytes, 1%). He was not seen again until Oct. 18, when he was traced and re-examined. It was found that his condition had again regressed spontaneously. A skiagram of his chest revealed no abnormality and white cells numbered 9,360 (P., 70% ; L., 20% ; M., 6% ; E., 4%).

Discussion

The finding of six cases of tropical eosinophilia in a consecutive series of 34 patients suffering from chronic cough or asthma suggests that this condition is relatively common in the Dar-es-Salaam district. All the patients had resided on the Tanganyika coast for the previous two years, and none of them had been out of East Africa for eight years. The only features common to all cases were: a history of less than three years' duration, cough of variable degree, leucocytosis, and pronounced eosinophilia. In most cases there was no obvious symptom or physical sign to distinguish them from bronchial asthma or recurrent bronchitis, and it must be emphasized that unless a differential white count is done in the Tropics as a routine on all such cases tropical eosinophilia will constantly be missed.

The aetiology of tropical eosinophilia still remains obscure. It has been found at all ages and in both sexes. Weingarten stresses the importance of environment, finding it common on the coast round Bombay, but absent from the inland district of Rajputana. Although cases have since been recorded from inland districts the majority seem to have contracted the disease in a hot and humid atmosphere. In Dar-es-Salaam the mean temperature varies between 74° and 82° F. (23.3° and 27.8° C.), with a relative humidity of 60 to 90%.

Löffler (1936) described a syndrome characterized by fever, cough, and eosinophilia which resembles tropical eosinophilia but is essentially an illness of short duration in which rapid spontaneous cure occurs. The pulmonary infiltrations described by Löffler were transient ("flüchtige Infiltrate"), seldom lasting more than eight days, and were often confined to one lung. In tropical eosinophilia there is a tendency towards spontaneous cure, but if untreated the condition is apt to persist for several years. It is unlikely, therefore, that the two conditions are identical.

Vaidya (1943) and Lal (1945) do not consider the condition to be a separate disease entity, but think that it should be regarded as a form of asthma with a pronounced eosinophilic response. The relation between tropical eosinophilia and asthma is clarified by regarding asthma or bronchospasm as a symptom common to several diseases, of which this condition is one. Tropical eosinophilia differs from the primary allergic group of disorders in the absence of a family history and in the presence of fever, leucocytosis, splenomegaly, and characteristic shadows in the skiagrams of the chest. Moreover, arsenic is not particularly useful in the treatment of bronchial asthma, and no response was obtained when it was tried in a few of the cases with low eosinophil counts.

As Menon (1945) showed, tropical eosinophilia bears a fairly close resemblance to infectious mononucleosis, and both its clinical appearances and its response to treatment favour the theory that it is a specific infection. Whether

or not the *Acarus* is the infective agent has not yet been satisfactorily proved. The finding of ova and larvae in sputum by Carter and his colleagues and of ova in the present series strongly suggests that the mites are living in the respiratory tract either as commensals or as the direct or indirect cause of the associated symptoms. Carter, Wedd, and d'Abrera (1944) have demonstrated that the mite *Tyroglyphus longior* is killed by exposure to arsenious oxide (1 : 1,000) for ten minutes. Carter and d'Abrera (1946a) have also produced a syndrome resembling tropical eosinophilia by introducing ova of tyroglyphid mites into the trachea of a toque monkey. Against the theory that the *Acarus* is the infective agent it may be argued that the mites found are not of any specific genus, nor did Carter and his colleagues find that they had entirely disappeared after the patient had been successfully treated. Further research is clearly necessary on this subject, particularly the examination of sputum from patients in the Tropics suffering from pulmonary disorders unassociated with eosinophilia.

Treatment with inorganic arsenic is dramatically successful. Until the aetiology of this condition is understood, and until more cases have been followed up, the minimum effective course of treatment cannot be determined. Vaidya and Lal both record cases which relapsed owing to inadequate treatment, and Soysa and Jayawardena found that the length of treatment should be determined by the blood picture and not by the pulmonary symptoms. In the present series treatment was probably continued in most cases longer than necessary. The most effective method appeared to be a ten-day course of carbarsone followed after a few days by four weekly injections of neoarsphenamine (0.6–0.75 g.). This was sufficient to produce complete clinical cure, and further treatment seemed to delay rather than accelerate the fall in the eosinophil percentage. No untoward reactions occurred, nor did any case relapse during the three months in which cases were followed up.

Summary

Seven cases of tropical eosinophilia are described from Dar-es-Salaam, East Africa.

Six of them were successfully treated with arsenic; the seventh regressed spontaneously.

It is thought that this condition must be relatively common on the coast of Tanganyika, and probably elsewhere in tropical Africa.

I wish to express my indebtedness to Dr. F. Vivarelli, who undertook most of the pathological investigations described, and to Dr. J. H. Macdonald for his assistance in following up the cases. My thanks are due to the Acting Director of Medical Services, Tanganyika, for permission to publish this paper.

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Information on French spas is now available and may be obtained from the French National Tourist Office, 179, Piccadilly, London, W.1.

CAUSALGIA OF THE FACE

TWO CASES SUCCESSFULLY TREATED BY SYMPATHECTOMY

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While causalgia most often follows injuries to the median nerve and the medial division of the sciatic nerve, other nerves are sometimes similarly affected. I saw two cases of causalgia of the face, and as such cases are unusual it seems worth while to place them on record. Because of the good results obtained from sympathectomy in many cases of causalgia following injury to other nerves, it was thought that this line of treatment might relieve the facial pain in these cases. As will be seen from the case histories, interruption of the sympathetic chain proved successful.

Case I

An Indian N.C.O. aged 28 was wounded by shell fragments on Feb. 28, 1944. He sustained a small penetrating wound of the right cheek and a severe compound fracture of the right leg, for which an above-knee amputation was performed. Burning pain on the right side of the face developed on the day he was wounded and was still present when he was seen a year later. It was continuous, was felt in the area of distribution of all three divisions of the trigeminal nerve, and was strictly confined to this area. It became worse with warmth—when in the sun or on a very hot day—with eating, or with much talking. Marked hyperalgesia of the skin supplied by the three divisions of the trigeminal nerve was present. In the centre of the right cheek was the scar of a small penetrating wound. *X*-ray examination revealed a small metallic foreign body under the base of the skull in the region of the foramen ovale.

Paravertebral Procaine-alcohol Injection.—A procaine block of the stellate ganglion was produced by the paravertebral injection of 2 ml. of procaine on March 17, 1945. Within a few seconds, no longer than was required for the procaine to produce a nerve block, the facial pain was completely relieved. A further 3 ml. of procaine was injected and was followed by 5 ml. of absolute alcohol. The alcohol, unfortunately, produced a neuritis of the upper intercostal nerves, with pain in the back and front of the chest. This was fairly severe at first and lasted for several weeks. Three weeks after the injection the facial pain and tenderness returned, and the pain soon became severe. On examination it was found that the sympathetic block had been only temporary and that sweating had returned on the left side of the face. It was decided to excise the superior cervical sympathetic ganglion.

Operation.—On April 22, 1945, under local analgesia, the right superior sympathetic ganglion was exposed through a 3-in. (7.6-cm.) incision along the posterior border of the sterno-mastoid muscle. The sympathetic chain was divided below the ganglion, the superior cardiac nerve and communicating rami from the ganglion to neighbouring nerves were cut, and the lower half of the ganglion excised. The facial pain and tenderness were again immediately relieved, and there was no sign of their return when the patient was last seen three months later.

This patient also suffered from phantom pain felt in the amputated foot. This, however, was only slightly painful and he did not wish to have anything done for it.

Case II

An Indian N.C.O. aged 23 sustained multiple mortar wounds on April 1, 1944. There were several small penetrating wounds on the left side of the face and head, the left arm, and the left shoulder, and an extensive wound of the left thigh. Three days later the left leg was amputated above the knee for gas gangrene. Pain in the left cheek began three months after the

injury. It was a continuous burning pain, usually confined to the maxillary division of the trigeminal nerve. It was not very severe, but was sufficient to worry the patient considerably. It was worse when he was talking or eating, and he was unable to eat solid food. It also became worse when the weather was warm, and when he was angry or otherwise emotionally upset. On these occasions pain was also felt in the ophthalmic division of the nerve.

When seen almost a year after the injury, pain was still present and was showing no sign of subsiding. The scar of a minute penetrating wound was seen on the left cheek, close to the ala nasi. There was marked hyperalgesia of the skin of the cheek to pinprick and light friction. *X*-ray examination revealed, in addition to the foreign bodies in the scalp of the left parietal region, a metallic foreign body lying in the left temporal fossa. This had passed from the cheek through the maxilla, and a fracture of the roof of the maxillary antrum was seen in the radiograph.

Paravertebral Procaine-alcohol Injection.—On March 17, 1945, a procaine sympathetic block produced instant relief of pain, and alcohol injection was performed. Complete relief of pain and tenderness persisted for two months. Cutaneous hyperalgesia and slight pain then returned, and it was seen that interruption of the sympathetic chain had not been permanent. For some months pain did not become severe, and it was at first thought that no further treatment would be required. Later, however, pain increased, and nine months after the alcohol injection it was extremely troublesome. Excision of the superior cervical ganglion was then undertaken.

Operation.—As in the first case, on Dec. 21, 1945, the lower half of the superior cervical ganglion and a portion of the sympathetic chain were excised under local analgesia. Facial pain and tenderness were relieved immediately.

Discussion

It seems clear from these two cases that, as in causalgia affecting other nerves, sympathectomy will be successful in some cases of causalgia affecting the trigeminal nerve. As in other cases of causalgia, a procaine sympathetic block should first be performed in order to determine whether relief can be obtained by sympathectomy. Treatment by repeated procaine injections was not attempted in these cases, because even when prolonged relief of causalgic pain is obtained by this means it is sometimes necessary, months or years later, to have further injections. For both these patients this might have presented considerable difficulty.

The aetiology and mechanism of production of causalgic pain and the reason for sympathectomy relieving pain in some cases have been the subject of much speculation. The idea that sympathectomy may interrupt a pain pathway from the periphery has usually been rejected, and a number of other theories have been suggested. For example, Homans (1940), among others, regarded pain and tenderness in such cases as due to peripheral changes brought about by reflex sympathetic impulses, these sympathetic impulses being initiated by afferent impulses passing centrally from the site of injury to a main peripheral nerve or to periarterial pain nerves. Livingston (1944) suggested that persistent causalgic pain is in many cases due essentially to a disturbance of function in the cord or in higher centres. Doupe, Cullen, and Chance (1944) suggested that the nature of the nerve lesion in causalgia is a loss of insulation of somatic sensory nerves, and a linkage between them and sympathetic nerves, with the result that they are stimulated by efferent sympathetic impulses.

From observations on and investigations of a number of cases of causalgia and post-amputation pain, however, I have come to the conclusion that when sympathectomy relieves causalgic pain and tenderness it does so by interrupting the sensory pathway.

When the superior cervical ganglion was first exposed in Case II it was noticed that pressure on it caused the patient to complain of pain in the face. About 1 ml. of procaine was injected below the ganglion, in the neighbourhood of the sympathetic chain, but not close to the ganglion itself. After this, neither pressure on the ganglion nor pinching the ganglion in forceps caused facial pain. If the facial pain had been produced by efferent sympathetic impulses to the periphery, pain then being conveyed to consciousness by some other pathway, blocking the sympathetic chain below the ganglion would not have prevented facial pain being felt when the ganglion was stimulated. As far as can be seen, blocking the sympathetic chain would have had this effect only if in this way the sensory pathway had been interrupted.

I am indebted to Col. S. M. A. Faruki, I.M.S., Officer Commanding the hospital, for permission to publish these case records.

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IN-PATIENT TREATMENT OF THE MALADJUSTED CHILD

BY

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The problem of dealing with the maladjusted child is one which affects the general community, and is now engaging the close attention of large numbers of responsible persons. An attempt to cope with the difficulties is revealed in the establishment of child guidance clinics in most large towns, and the need for this service is reflected in the considerable waiting lists of these clinics. The problem is, however, largely sociological, and the child psychiatrist working in comparative isolation has a very limited scope and can do little to affect the issue materially. As in all aspects of mental health, the need for integration of the medical and social services is paramount, and until this is carried out throughout the country on a large scale the problem will remain unsolved.

The commonest cause of maladjustment is the faulty attitude of either one or both parents, and the treatment and education of parents are, of course, a well-recognized part of child guidance. In many cases, however, this may prove impossible for a variety of reasons, of which lack of co-operation is often the most important. It is essential in such cases that, for a time at least, the child should be removed from the home environment. In other cases it is impossible to give domiciliary treatment because of the child's grossly disturbed behaviour. The provision of foster homes is not always practicable, and even the best of these may not meet the situation. Apart from a few evacuation hostels established during the war, there has been little real effort to cope with the difficulty in this country, and according to Burlingame (1947) a similar position appears to exist in the United States.

During the development of the Portsmouth Mental Health Service it was realized that some provision for child in-patient treatment would have to be made, and ten

years ago the experiment of admitting such children to St. James's Hospital was initiated.

Outline of the Work

The following is a brief description of the work that has been carried out during the past seven years.

Numbers of Admissions.—Since 1940, 125 children have been admitted. The numbers have increased steadily since the beginning, and in 1943, 1945, and 1946 the admissions were 13, 21, and 48, respectively. The number of boys exceeded the number of girls, and in 1946 33 males and 15 females were admitted.

Ages.—The ages varied between 4 and 15 years, but the majority admitted were between 7 and 11 years old, with a peak at 9 years for the boys and at 10 years for the girls.

Period in Hospital.—The average period in hospital was four months—the longest three years and the shortest six weeks. Girls tend to remain longer than boys, the average for the girls being five months and for the boys three months.

Intelligence.—Apart from a small group of backward children the average intelligence was well above normal, while some were very intelligent. Many, however, were educationally retarded on admission (for example, in the appended Table, Case 6 had previously been labelled as backward and placed in a special class) but had improved before they left. The average intelligence quotient was in the region of 110, and it is of interest to note that one recently admitted girl of 13 (not included in this series) has a mental age of over 20 years, which gives her an I.Q. of 170.

Sources.—Fifty-eight per cent. of the children were admitted after treatment at the child guidance clinic had proved unsatisfactory either because the child's behaviour was too severely disturbed for it to remain at home or because the home situation was extremely difficult; 6% were admitted via the Magistrates' Court and the child guidance clinic; 20% were admitted from the out-patient clinic at St. James's Hospital after the parents and the child had been seen and a report from the psychiatric social worker studied; 4% came from the local education or other authority because the child had proved to be unbilletable in hostels or foster homes; and 12% came from child guidance clinics elsewhere or were referred by the medical practitioners of other areas. Recently the latter group has formed a much higher percentage (30% in 1946).

Problems.—All cases were admitted with a provisional diagnosis of maladjustment, though in a small proportion of cases it was suspected that the disturbed behaviour was due to a psychosis and in others that it may have been the result of backwardness. After a period of observation these cases were regraded, the psychotic types treated, and the backward children placed elsewhere as soon as their general behaviour had settled down sufficiently. A fairly large group were admitted because of suspected epilepsy. Once the diagnosis was established and the condition stabilized the children were allowed to return home and attend as out-patients. The more severe cases were placed in a colony. A small number were found to be suffering from organic disease of the nervous system.

Symptoms.—A very common combination of symptoms was stealing with enuresis, often associated with running away from home. Aggressive behaviour, with destructiveness and temper-tantrums, was another common syndrome, and some children showed sexual misdemeanours. Others (mostly older children) exhibited panic attacks and allied hysterical manifestations.

Factors.—A very frequent factor was rejection of the child, especially by a step-parent or by one parent in adoption cases. Alternatively, there may have been a bad home background, as in cases where the parents were divorced, separated, alcoholic, or promiscuous. Jealousy of another child often appeared as a factor, and evacuation or absence of the father on foreign service was frequently cited by the parents. Very few of our children came from what could be called normal homes.

Case No. and Sex	Age Admitted (years)	I.Q.	Referred From	Symptoms	Factors	Length of Illness (years)	Period in Hospital (months)	Disposal	Result	Follow-up	
										Duration (months)	Result
1 M.	11	125	Child guidance clinic	Pilfering, truanting, running away from home	Parents separated; financial stress; mother overanxious	1	5	Home	Recovered	6	Very well
2 M.	10	106	Court; child guidance clinic	Enuresis, pilfering, running away from home	Not wanted (? illegitimate); father alcoholic; poor physical health	3	9	Still in hostel. Home very unsatisfactory	Improved	—	—
3 M.	7	84	School; child guidance clinic	Enuresis, aggressive behaviour, truanting	Defective mother; father dead; backward	2	3	Home	Very much improved	9	Very well
4 M.	6	100	Child guidance clinic elsewhere	Aggressive and destructive behaviour, grossly obscene language, unmanageable	Parents at loggerheads; psychosis—schizophrenic	3	14	Still in hospital	Improved	—	—
5 M.	8	92	School; child guidance clinic	Enuresis and soiling, pilfering	Father away; mother neurotic; jealous of other children	9/12	4	Home	Very much improved	12	Very well
6 F.	13	134	Other local authority	Childish regression, panic attacks, refusal to eat, backward at school	Death of father; overanxious mother; illegitimacy (?)	1	9	Foster home	Recovered	12	"
7 F.	7	112	School; child guidance clinic	Solitary, moody, refusal to make contacts at home (? psychosis)	Sudden death of mother, who spoilt her; stepmother rejected her	2	7	Home	"	3	Well
8 F.	8	78	School; child guidance clinic	Destructive behaviour, "fits," enuresis	Physical defect; parents separated; mother promiscuous; backward	1½	3	National children's home	Improved	6	"
9 F.	9	80	School; out-patient department	"Fits," uncontrollable, truanting	Epilepsy; backward	1	3	Home	Much improved	6, No fits for 3 months	"
10 F.	7	120	Court; child guidance clinic	Pilfering, running away from home and school, backward at school	Parents separated; financial stress; mother neurotic	1	12	"	Recovered	4	Much better

Correlations.—There was a positive correlation between stealing with enuresis and rejection, and also between sex misdemeanours and the immoral life of a parent (especially when the parents were separated).

Placing in Hospital.—Owing to the diversity and severity of the symptoms and to the varying sexes and ages, it was not always advisable to treat the children in one ward, and it was useful to have at our disposal the wide facilities which the mental hospital offered. Some children were treated for a time in the male or female admission wards and villas, but the majority were housed in a special wing of the female convalescent villa. Recently a large house in the city has been converted into an annexe to this hospital. The building is situated in quite pleasant surroundings and provides accommodation for twenty children, who are transferred after a preliminary period of observation and, if necessary, treatment in the main hospital.

Education.—At first daily lessons were given in the hospital by a qualified teacher, but because of the wide age group this did not always prove satisfactory. For over a year now the children have attended the local schools. This has been most successful even where they had previously been very difficult at school, and it helped to promote a feeling of normality in the child. The local education authorities have always proved most helpful over these arrangements.

Treatment.—(1) All children were given a thorough physical overhaul, and any physical defect or deficiency was, if possible, corrected. (2) As regards general treatment, we have attempted to provide a secure background to the lives of these children

many of whom have never known consistency or stability, always keeping in view our goal, which is that, if at all possible, the child shall eventually return home. We have aimed at a combination of routine with latitude, and of kindness and understanding with the gradual development of a really constructive attitude towards the child. (3) Play therapy has been widely utilized both as individual and as group treatment, and for the older children talks and discussions. (4) We have invited the parents to attend regularly for interviews, and in some cases have had to insist that they keep in touch with us. This is most important, as some parents are only too willing to shelve their responsibilities, and it is very noticeable that in these cases the children lose all their symptoms immediately they enter hospital but relapse very quickly when they return home. (5) Finally, we have tried to return the child to his normal environment gradually, by a slowly extending system of group parole, days out with relatives or friends, and week-end leave.

Disposal.—The majority of the children (roughly 80%) returned home, 14% were placed in foster homes or specially chosen institutions (for example, national children's homes), and about 6% went to M.D. colonies or special schools.

Results.—Some 80% recovered or were very much improved, and 16% showed some improvement; only 4% showed no improvement. All the children were followed up, either by attendance at the out-patient clinic or by home visits or letters. The Table gives details of 10 unselected cases. All these cases were treated on the general lines described above, with the exception of Case 4, a young schizophrenic who, after extensive psychological treatment both here and elsewhere had failed to produce any result whatsoever, was treated by electric convulsion therapy.

Conclusions

From the foregoing account it will be seen that some 80% of the children were greatly benefited by in-patient treatment. It should be noted that the majority of these had received previous child guidance treatment as out-patients, both here and elsewhere, without any appreciable improvement in their condition. It would seem, therefore, that there is a great need for the provision of in-patient treatment, and it may be of interest to note that since it became known that we were undertaking the care of such children in this hospital we have been inundated with requests to arrange admissions from doctors and local authorities all over the country. It is, unfortunately, only possible to cope with an extremely small proportion of these pleas, which continue to arrive at the rate of about three a day.

We wish to thank Dr. Thomas Beaton, medical director of the Portsmouth Mental Health Service, for helpful criticism and permission to publish this article.

REFERENCE

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The librarian at the London School of Hygiene and Tropical Medicine, Mr. C. C. Barnard, has written an interesting illustrated pamphlet entitled the *History of the Library*. The London School of Tropical Medicine was founded in 1899 by the Seamen's Hospital Society, and by 1904 had collected 373 volumes. The first librarian was appointed in 1915 and in 1921 a library committee was formed and £10,000 invested to produce an annual income for the support of the library. In 1924 the library was incorporated in the newly constituted London School of Hygiene and Tropical Medicine, and in 1929 it was moved into the School building in Keppel Street. Preparations for the recent war were begun as early as 1938, some of the more valuable periodicals being removed to the basement and duplicates evacuated to Kent. On the outbreak of war the library remained open, but in 1941 a large number of books and periodicals were sent to Hampshire and other places. The librarian then made monthly visits to collect books that had been asked for during the preceding weeks and brought them to London or posted them to the required addresses. A valuable adjunct to the library is the instruction in its use—a course of three lectures on tropical medicine, public health, and bacteriology given to students at the beginning of each session, preceded by a conducted tour of the library.

Medical Memoranda

Smallpox: A Case with Minimal Lesions

About 9.30 p.m. on Monday, Oct. 21, 1946, one of the practitioners in this area telephoned me saying: "I have got a case of alastrim . . . with the amber-coloured lesions. I would like you to see it with me to-morrow." At the consultation next morning I agreed that the diagnosis was smallpox.

The patient, a garage proprietor aged 37, lived with his wife in a flat above his garage in Beaconsfield. He had spent six weeks, partly on business and partly on holiday, in Sweden and Denmark. He returned to this country on Oct. 3. On Oct. 15 he felt sick and complained of a severe headache and backache. When seen by his doctor on Oct. 17 he had a temperature of 102° F. (38.9° C.); the only other sign was a severe stomatitis. He was regarded as a case of influenza and treated accordingly. The feverish illness lasted for three days. On Oct. 21 both temperature and pulse became normal, and have remained so ever since.

In consultation the practitioner and myself observed five small suspicious lesions. There were several superficial pustules of an acneform type widely distributed all over the body, but the suspicious lesions were peripherally distributed—on the right hand, right arm, and the sole of the left foot. Most of them were no bigger than a large pin's head; they were intradermal, and the lesion on the palm of the hand felt "shotty," as did the one on the sole of the foot. They all appeared together during the night of Oct. 20–21.

The yellow pustular lesion on the palm of the right hand was about 1 cm. in diameter, and its base was surrounded by a distinct margin of erythema. It was intradermal and very "shotty" to the touch. The peripheral distribution of the lesions, the short sharp febrile illness, and the site, character, and "feel" of the right palmar lesion in my opinion definitely suggested smallpox.

Dr. W. H. Bradley, of the Ministry of Health, made arrangements for one of the smallpox consultants on the regional panel to see the patient with the practitioner concerned and myself the same afternoon. The deputy M.O.H. for the county was also present. At this consultation there was no diagnostic unanimity, but it was decided to vaccinate the patient and his wife. Specimens of blood, crusts, and swabs were sent to Prof. Downie at Liverpool, and the patient was isolated. Prof. Downie reported on Oct. 25 that the patient's serum gave a negative reaction for variola antibody; and that the material on the swab was insufficient for examination by the complement-fixation test. Further specimens of crusts were then sent to him.

The patient had been vaccinated sixteen years previously. When he was revaccinated on Oct. 24 his doctor reported there was an immediate reaction. His wife had been vaccinated in infancy and her reaction to revaccination on the same day was delayed but very marked on the fifth day. Both were kept under general surveillance during the period of isolation. On Nov. 1 a wire was received: "Variola virus isolated from crusts and swab." Arrangements were made through the Bucks County Council and the Oxford authorities to open up the Garsington Smallpox Hospital, where the patient was admitted on Nov. 2.

Despite the isolation conditions imposed on Oct. 23, several friends, his own garage hands, and some relatives had visited the patient in his flat. There was also the question of laundry and of petrol coupons to be considered. Between Oct. 28 and Nov. 1 one set of laundry had been collected, put through the laundry and returned; another lot had been sent to the laundry on the morning of Nov. 1. To minimize the risk to public health, the workers at the laundry were offered vaccination; 33 were vaccinated on the same day, the remainder during the following weekend—Nov. 3–5. As the patient had himself handled the garage petrol coupons during his infective stages, these were regarded as fomites. By an arrangement with the Petroleum Department, 2,572½ units in a sealed envelope were burnt, and a certificate to this effect was given for replacements.

All visitors and relatives who had been in contact with the patient, except a squadron-leader and a friend, whose address was unknown, were traced. Of these 9 contacts 2 had been vaccinated during the past two years in the Services; none of the remaining 7 had been vaccinated since infancy and they were revaccinated. The local practitioners, neighbouring local authorities, and hospitals were notified.

My thanks are due to Dr. Kipping, the practitioner, who was convinced throughout that the case was one of smallpox, though the lesions were minimal and the clinical picture was that of a patient suffering from a sharp three-day influenza attack which became apyrexial.

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Suprarenal Cortical Extract for Collapse in Infantile Eczema

Although sudden collapse in cases of infantile eczema admitted to hospital is well known, little has been written concerning treatment. Twiston Davies (1940) suggests that adrenaline can be of value, but states that most patients die in spite of all treatment. The following report of two successive cases seems to indicate the possibility of a more positive approach.

CASE I

A five-months-old boy was admitted to hospital on Jan. 8, 1947, with a history of repeated mild attacks of rash on the face since he was four days old and a severe relapse two days before admission.

On examination he was seen to be a healthy well-built baby, with no physical abnormality except a severe weeping and crusting eczema of the head, face, back, and limbs. The temperature was 102.4° F. (39.1° C.), pulse 120, and respirations 22. Treatment was commenced with starch poultices to all areas. Feeding 6 oz. (170 ml.) four-hourly, half-cream milk, and glucose and water between feeds. On Jan. 9 at 9.30 a.m. he was more comfortable, and there was less exudation. The temperature was 99.2° F. (37.3° C.), pulse 90. A calamine liniment was applied to all areas. At noon the temperature rose rapidly to 105° F. (40.6° C.), and the pulse to 128. Fearing a possible respiratory infection, penicillin in oil, 50,000 units, was given intramuscularly. At 7.45 p.m. the child suddenly became unconscious and cyanosed, the respirations were very rapid and shallow, the pulse uncountable, and the temperature 105.4° F. (40.8° C.). There were many moist rales in chest and slow coarse nystagmus to the left. Adrenaline, 2 min. (0.12 ml.), was given subcutaneously, and the respirations at once became slower and deeper, the rales disappeared, and there was a partial return of the response to visual stimuli. At 8.30 p.m. there was a sudden relapse, with rapid respirations and rales, followed by cyanosis and nystagmus. Adrenaline, 1 min. (0.06 ml.), was given subcutaneously with only partial relief. Five minutes later a further 2 min. (0.12 ml.) gave greater benefit. At 8.45 p.m. the respirations again became rapid, and prompt relief was obtained with 2 min. of adrenaline subcutaneously. At 8.55 p.m. the respiratory rate was rising and adrenaline, 2 min., was given subcutaneously with immediate relief—respirations 35, deep, no rales, pulse 130. The skin was pale, and the eczema had nearly cleared. The temperature was found to be 108° F. (42.2° C.)—and this could not be reduced by tepid sponging. At 9.45 p.m. he had a convulsion, beginning with twitching of the right side of face and neck, and passing to rhythmical contractions of right arm and leg. Reflexes were not obtainable; nystagmus to left. From this time the condition of the child deteriorated, with convulsions becoming more pronounced and spreading to the left side. Later the coma became deeper, with Cheyne-Stokes breathing, followed by death at 2.20 a.m. the following morning.

The relief obtained in this case, although only temporary, attracted attention to the suprarenal gland, and suggested the possible value of employing the cortical extract in addition.

CASE II

A five-months-old baby girl was admitted on April 15, 1947, with a history of rash on both cheeks since she was three months old, which spread to the body with increasing severity during the three weeks before admission.

On examination a healthy well-built baby was seen, with no physical abnormality except a severe weeping eczema of the head, face, buttocks, and limbs. The temperature was 98.2° F. (36.8° C.), the pulse 126, and the respirations 28. Treatment commenced with lead lotion to the limbs, zinc oxide and ichthyol ointment to the body, and ammoniated mercury with tar to the face and scalp. Feeding 5 oz. (142 ml.) three-hourly, half-cream milk, and glucose and water between feeds. On April 16 the child appeared well, she had occasional cough, and there were a few rales in chest. The temperature was 99.8° F. (37.7° C.), pulse 134, and respirations 34. Zinc oxide and ichthyol ointment was applied to the limbs in place of the lotion. The condition remained the same until the evening of the following day. At 5 p.m. on April 17 the child was very quiet. The skin condition was clearing rapidly. She vomited after the 4.30 p.m. feed. The temperature was 102° F. (38.9° C.), the pulse rapid, uncountable, and the respirations 60. The breath sounds were clear. Fluid was not detected in the bronchi. Sodium bicarbonate, 1 teaspoonful to 1/2 pint (284 ml.) of water, was given, 3 oz. (85 ml.) taken. At 6.45 p.m. the child was comatose but could be roused. Her colour was good. The temperature was 100.5° F. (38.05° C.), pulse rapid, uncountable, respirations 90. The limbs were flaccid, the eyelids drooping. The breath sounds were clear. The condition of the child was obviously deteriorating rapidly. Adrenaline, 2 min., was given subcutaneously with immediate improvement. There was a partial return of response to visual stimuli; the limbs were flaccid. At 6.55 p.m. her condition deteriorated and the respiratory rate increased. Adrenaline, 3 min. (0.18 ml.) subcutaneously, and extract of suprarenal cortex ("eucortone," Allen and Hanburys) 3 min. intramuscularly were given with immediate improvement. At 7.5 p.m. she had a relapse. She was very pale; respirations 90, very shallow; the pulse was of good volume, rapid, uncountable. She had divergent squint, the left eye rotated slightly inwards, and the right eye rotated upwards and outwards. The pupils were small and equal. Adrenaline, 5 min. (0.3 ml.), and cortical extract, 8 min. (0.5 ml.), were given together intramuscularly, with immediate effect. The respirations were 60, deeper, the breath sounds clear. Active movements of the limbs, very weak. She was trying to scratch. At 7.30 p.m. she was greatly improved: her colour was good, she was crying and was able to sit up, showing active movements of limbs, and was interested in the surrounding activities. The skin condition was much improved, moist. At 8 p.m. the child was restless, but the general condition gave no indication of the serious state in which it had been one hour previously. The temperature was 99.8° F. (37.7° C), pulse 120, and respirations 70. The breath sounds were clear. Glucose and water, 3 oz., was taken with avidity, followed by 2 oz. of milk and water in equal parts. The child then slept for 2½ hours, and after receiving 2 oz. of glucose and water she appeared much brighter. A green frothy stool was passed at 11.30 p.m. From this time the child has given no cause for anxiety.

Cases of sudden collapse in infantile eczema have been known to recover without treatment, but the dramatic results shown in the second case suggest that suprarenal cortical extract should be administered when this serious condition occurs.

I am indebted to Dr. P. B. Mumford and Dr. M. Peach for permission to report these cases.

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REFERENCE

Davies, J. H. Twiston (1940). *Brit. J. Derm.*, **52**, 182.

The annual report from the Medical Department of the Gold Coast Colony contains an interesting account of an outbreak of cerebrospinal meningitis which assumed major epidemic dimensions. Co-operation between all departments made it possible to circumscribe its area, otherwise the whole of the Northern Territories and Ashanti might have been involved. There were 9,863 cases recorded, with 1,056 deaths. In 285 of the fatal cases it was not possible to give any treatment. The lowness of the mortality rate is attributed to early treatment with sulphonamide drugs. To ensure immediate treatment small stocks of these drugs were entrusted to the care of the chiefs, with instructions for their use, thus treatment at an early stage, before a medical officer could arrive on the scene, was possible. The epidemic covered an area of nearly 10,000 square miles, calling for extensive travelling by the staff engaged in its control. Sulphanilamide was found more effective than sulphapyridine. A chief of any village where a case of sudden suspicious death had occurred, or where spread was expected, was furnished with a number of tablets of sulphanilamide and was instructed to give one tablet at once for every double hand span—18 in. (46 cm.)—of the patient's height, and to report immediately to the nearest control camp. If his village was very remote the chief was instructed to repeat the dose in three hours' time. It is stated that faulty diagnosis was unusual, the commonest error being confusion of the condition with pneumonia in children. The mortality rate in the treated cases was 7.8%. It is added that the prevention of a recrudescence of outbreaks of cerebrospinal meningitis in the north of the Gold Coast depends very largely on the question of housing. The need is to enforce increased ventilation and avoidance of overcrowding. The "fortress" type of house does not lend itself readily to improvement, but the "round house" compound, with well-spaced houses, and provided with windows yielding cross-ventilation, can be made a satisfactory type of community dwelling.

Reviews

MODERN STATISTICS

The Advanced Theory of Statistics. Volume II. By Maurice G. Kendall, M.A. (Pp. 521; illustrated. 50s.) London: Charles Griffin and Co.

In reviewing the first volume of Mr. Maurice G. Kendall's *The Advanced Theory of Statistics* (Feb. 26, 1944, p. 290) we said that a medical journal was not the place in which a detailed examination of a work primarily addressed to mathematical readers should appear. We have, of course, mathematical readers—the intellectual tastes of our profession are catholic—but they will also be readers of statistical and mathematical journals. We did, however, try to indicate the general character of the volume then under notice.

In his second volume Mr. Kendall has completed a difficult and important task in a manner which would have been creditable to one able to devote his whole time to the work. To have completed it while engaged in important administrative duties is indeed a triumph. Much of this volume is devoted to a problem which we all meet in professional life, namely, that of inferring from the examination of a sample the probable characters of the "population" from which it came. We may, for instance, wish to form a judgment on the general state of nutrition of the inhabitants—say the children of school age—of a large city, but can completely examine only a small number. In the first place, how is the sample to be obtained, how can we be sure that it is a fair sample? The technique of sampling is now well developed, and in the 25th chapter Mr. Kendall gives a lucid account of the best methods which does not make very heavy demands on the reader's mathematical knowledge. Next, having an appropriate sample, we pass to the main problem—to form some judgment of the "population" from an examination of the sample. If the sample consists of a hundred children of whom ten are undernourished, the only *certain* inference is that at least ten of the population are undernourished and not so many as 100%. But "common sense" tells us that it is more probable that 10% of the population are undernourished than 1% or 99%. There is no difficulty in answering a question of the following kind. If we infer from the presence of 10% ill-nourished children in the sample that the population does not contain more than p % defectives, what are the odds in favour of our conclusion being right? It is of course only a probable conclusion; sometimes we shall be wrong; actually the hypothesis was true although our statistical test rejected it. But we may also fall into a different error: not only may we reject the hypothesis when it is true, we may accept it when it is false, when the population *did* contain more than p % ill-nourished. In the particular illustration there is no great difficulty in handling the dilemma, but sampling, even in medical matters, is often concerned with something more complex than a mere dichotomy. The situations which arise are fully examined by Mr. Kendall; they present two difficulties of apprehension: the first is to be sure that one fully grasps the nature of the hypotheses under examination, the second to follow the technique of the mathematical solution.

In the last two chapters in the volume, on time-series, the author discusses, with adequate arithmetical illustration, a subject of universal interest. A time-series is a set of observations of a variable made, usually, at equal intervals—say the number of cases of or deaths from measles recorded in successive weeks. It may be that the time-series has a steady trend, it may be that it exhibits to the eye what seem to be more or less regular rises and falls, short waves and longer waves. These are of great interest, as we all know, to statesmen and economists. They are also of interest to medical men; the alleged periodicity of epidemics of measles is a well-known instance. Our readers will recollect that the late Sir William Hamer first gave statistical reasons for attributing the major waves of the measles graph to the accumulation of susceptible subjects and that in 1929 the late H. E. Soper much extended Sir William's method of analysis. The process was to apply statistical methods to test the adequacy of a plausible biological hypothesis (it may be said that the wartime effects of evacuation in "aborting" expected epidemics made the hypothesis more than plausible), and the result was to show that it did describe a good deal but certainly not all of the facts. Mr. Soper said it gave half the picture. The late Dr. John Brownlee followed a different line and applied to the data the method of periodogram analysis used by astronomers, and extracted a number of periods the biological meaning of which gave rise to much discussion. Subsequent mathematical-statistical work, beginning with that of Mr. Udny Yule in 1926–7, has made it clear that periodogram analysis is a rather dangerous tool in routine statistical practice. Mr. Yule showed that it was quite possible to have time-series which, to the eye, suggested a regular harmonic series, although the waves were not produced at all in the way those who have applied the method of periodogram analysis to economic or epidemiological data supposed.

Mr. Kendall, who has himself made important contributions to this branch of analysis, has admirably summarized the work of the last twenty-five years, and it is clear that statistical epidemiologists must reconsider the interpretation of so-called epidemic periodicity. It never seemed very probable that arithmetic, however extensive, would enable us to predict accurately when the next pandemic of influenza would afflict the world. Modern research has not increased the probability; yet few will deny that the subject is alluring, and we now have improved tools. Mr. Kendall has placed all statisticians, including medical statisticians, under a heavy debt of gratitude.

MAJOR GREENWOOD.

ASTHMA

The Treatment of Bronchial Asthma. By Vincent J. Derbes, M.D., and Hugo Tristram Engelhardt, M.D., F.A.C.P. With Chapters by a Panel of Contributors. (Pp. 466; 61 illustrations. 48s.) Philadelphia and London: L. B. Lippincott Company. 1947.

The reception of yet another beautifully produced book on asthma from the United States suggests that the Americans are paying much attention to this disease. The reason, we suppose from the chapter on climatic and weather effects, is probably the climate. No other continent has a cyclonic storminess comparable with that of North America. The wind distributes pollen, spores, and other allergic material widely. The storms of 1934 often heavily coated cars and houses with fine yellow dust that had come from 1,500 to 2,000 miles away.

A group of distinguished authors from different centres in the U.S.A. wrote this unusually interesting book, and editorial control has maintained a balanced presentation of the subject. It is divided into two sections, "Orientation" and "Clinical Aspects." The former is of particular value in providing a historical, statistical, and scientific background to asthma. British readers will particularly appreciate in the clinical section the full account of the non-allergic aspects of diagnosis and treatment. There is a welcome chapter on psychogenic factors in bronchial asthma written by a member of the American Psycho-analytic Association, in which he convincingly discusses the concept of the asthmatic attack as a suppressed outburst of crying. As is characteristic of American books, the part played by allergens, their detection and treatment, is considered in detail; less characteristic is a brief but lucid account of the immunology of asthma. Until recently many have thought that desensitization to pollen or similar antigens was brought about by a combination of the antigen and the cellular antibodies, an analogy being the refractory state occurring after anaphylactic shock. The present hypothesis is that nothing like this happens and there is no reduction of reagin after treating the patient with the specific pollen antigen. What occurs is the production of a new antibody, the "thermostabile antibody," which neutralizes the pollen antigen and thus prevents its union with the reagin. However, it is difficult to understand how this theory explains the sensitization to liver which occurs in patients treated by parenteral injections or the rush method of desensitization in hay-fever. In conclusion we must add that the paper, printing, and lay-out of this book are most attractive. We have hinted that there are already a great many books on asthma, but there is always room at the top and this book looks like getting there.

L. J. WITTS.

PAPERS ON SURGERY

The Surgical Clinics of North America. Nationwide Number. Oct., 1946. Symposiums on Aseptic Surgical Technique, Gastro-Intestinal Surgery, Genito-Urinary Surgery. Issued serially six times a year. Sold by a year's subscription to six consecutive numbers. (Pp. 268; illustrated. Cloth covers 75s., paper covers 55s.) Philadelphia and London; W. B. Saunders Company. 1946.

This volume contains much information of general interest, though some of the articles will appeal chiefly to specialist readers. It begins with an excellent historical summary of the development of aseptic surgical technique; this should be read in conjunction with the later stimulating article in which the author discusses "unexplained infections" in surgical wounds and claims that the use of ultra-violet radiation in the operating theatre will banish such infections. Sections on penetrating wounds of the chest, plastic surgery of the breast, and complications of thoracotomy are useful practical contributions.

The second part covers oesophago-gastrostomy, bleeding peptic ulcer, penetrating wound of the abdomen, megacolon, and the technique of anastomosis of the colon. The articles are well-balanced presentations of the subjects, though in the last mentioned we are surprised to find the Paul-Mikulicz operation relegated to such a secondary position. It is encouraging to note that the mortality from peritonitis consequent on penetrating wounds of the abdomen has been significantly reduced since the advent of chemotherapy by the sulphonamides and penicillin.

The authors of the third part deal with the management of bladder tumours, discuss bladder-neck obstruction, and recommend the use of cotton sutures in vaginal plastic operations. There are two articles of general interest—the first on tests of renal function and the second on the many unnecessary abdominal operations which are performed for overlooked pathological lesions of the genito-urinary tract. The concise, clear, and well-documented account of the clearance and saturation tests of renal function should be valuable to both physicians and surgeons, and the same remark applies to the second article, which draws attention to the necessity of considering the genito-urinary tract before undertaking any abdominal operation. The additional article on the removal of foreign bodies in the neck under fluoroscopic control records two such operations which were undertaken in the author's consulting room under local anaesthesia. One of these operations involved a deep dissection in the neck in the neighbourhood of the large vessels and was performed through an incision 3 cm. in length. The anaesthetic was not perfect and the patient had to be "kept in good spirits by a flow of kind remarks." The bullet was removed, but it is stated that at the end of the operation, which took two and a half hours, the patient was somewhat shocked and his pulse weak. However, he soon recovered.

V. ZACHARY COPE.

Practical Methods for the Microbiological Assay of the Vitamin B Complex and Essential Amino Acids, by E. C. BARTON-WRIGHT, D.Sc., is published in London by Ashe Laboratories at 7s. 6d. In this small book details are given of the microbiological assay of riboflavin, nicotinic acid, biotin, pantothenic acid, aneurine, pyridoxine, and the amino acids tryptophane, leucine, isoleucine, cystine, valine, methionine, phenylalanine, lysine, histidine, arginine, and threonine. Chemical methods of assay of these substances are tedious and often of doubtful validity, and biological methods using larger animals are time-consuming and expensive. Microbiological methods which have recently come into use have many advantages over biological ones. They are rapid, they require no elaborate apparatus, and a number of samples can be assayed at one time. The apparatus is such as would be found in any well-equipped bacteriological laboratory. Dr. Barton-Wright gives all the necessary details for performing these assays.

Adventures in many different countries and a youthful sense of humour are the main ingredients of *99 and All That* by the medical man who writes under the pen-name FREDERICK KAIGH. A saint's pickled and revered heart showing signs of syphilitic disease, an importunate nymphomaniac, a negro witch-doctor employing the latest surgical techniques in the depths of Africa—a character who might have stepped straight out of "Itma"—are some of the remarkable specimens displayed to us. These leaves from an M.O.'s notebook (published at 9s. 6d. by Richard Lesley and Co., Ltd.) can be recommended for holiday reading.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Le Traitement de la Néphrite Aiguë par les Antihistaminiques de Synthèse. By François Reubi. (Pp. 50. 3 Swiss francs.) Basle: Benno Schwabe. 1946.

A monograph on synthetic antihistamine drugs, with experimental evidence from rabbits, in the treatment of acute nephritis.

Municipal Health Services. By Norman Wilson, M.A., Dipl.P.A. (Pp. 178. 7s. 6d.) London: George Allen and Unwin. 1946.

An account of the principles and methods of administration and organization of municipal health services.

Rehabilitation through Better Nutrition. Tom D. Spies, M.D. (Pp. 94. 20s.) Philadelphia and London: W. B. Saunders. 1947.

A monograph on the long-term application of the principles of nutrition therapy, including discussion of vitamin deficiencies and certain anaemias.

Handbook on Mental Health Social Work. Published by the London County Council. (Pp. 114. Post free 2s. 8d.) London: Staples Press. 1947.

A guide to mental health social workers on the Mental Deficiency Acts and the Lunacy and Mental Treatment Acts.

Gonadotrophines et Tumeurs Testiculaires. By M. Sorba. (Pp. 80. 6 Swiss francs.) Basle: Benno Schwabe. 1946.

An investigation into the production of gonadotrophins and their control in hormone therapy.

Lehrbuch der Nervenkrankheiten. By Dr. Robert Bing. 8th ed. (Pp. 743. 52 Swiss francs.) Basle: Benno Schwabe. 1947.

Textbook of neurology revised in the light of recent neurological research.

Homoeopathy and Chemotherapy. By O. Leeser, M.D.(Berlin). (Pp. 87. 7s. 6d.) London: Hippocrates Publishing Company. 1947.

Discussion of chemotherapy from the homoeopathic view-point.

The Contribution of Homoeopathy to the Development of Medicine. By O. Leeser, M.D.(Berlin). (Pp. 69. 7s. 6d.) London: Hippocrates Publishing Company. 1947.

An account of various aspects of homoeopathic teaching.

A Textbook of Dietetics. By L. S. P. Davidson, M.D., F.R.C.P., F.R.S.E., and Ian A. Anderson, B.Sc., M.B., Ch.B. 2nd ed. (Pp. 517. 21s.) London: Hamish Hamilton Medical Books. 1947.

Discusses the practical problems of dietetics for students and general practitioners; includes recent work.

The British Encyclopaedia of Medical Practice: Medical Progress 1947 (with cumulative supplement). Edited by Lord Horder. (Pp. 525. 42s. for 2 vols.) London: Butterworth. 1947.

Includes critical surveys of medicine by Lord Horder, surgery by Sir Max Page, and obstetrics and gynaecology by Prof. F. J. Browne.

The Glands of Destiny. By Ivo Geikie-Cobb, M.D. 3rd ed. (Pp. 258. 15s.) London: William Heinemann. 1947.

A simple account of endocrine glands and of their effects in well-known historical personalities.

The Art of Healing. By Bernard Aschner, M.D. (Pp. 336. 12s. 6d.) London: Research Books, Ltd. 1947.

The author discusses the place of many ancient remedies in present-day medicine.

The Medical Register, 1947. Published for the General Medical Council. (Pp. 2,274. 22s. post free.) London: Constable. 1947.

Recent Trends in Alcoholism and in Alcohol Consumption. By E. M. Jellinek, Sc.D. (Pp. 42. $0.50.) New Haven, Connecticut: Hillhouse Press. 1947.

An analysis of alcohol consumption statistics and the prevalence of alcoholism in America.

The Mystery at Orchard House. By Joan Coggin. (Pp. 158. 9s.) London: Hurst and Blackett. 1947.

A detective story.

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CENTENARY OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association is next week meeting in Atlantic City, New Jersey, to celebrate its one hundredth anniversary, and the programme of the activities that will take place from June 9 to June 13 suggests that this memorable occasion will be altogether worthy of the event and of American medicine. The American Medical Association has invited a number of medical men from this country to take part in the meeting. Those who will speak as distinguished guests at the various section meetings include Sir Howard Florey, Sir Heneage Ogilvie, Sir Stewart Duke-Elder, Prof. John McMichael, Prof. G. W. Pickering, Prof. H. J. Seddon, Dr. A. R. Hunter, Dr. R. M. B. MacKenna, Mr. G. E. Martin, and Dr. E. A. Underwood. The British Medical Association will be represented by the Chairman of Council, Dr. H. Guy Dain; the Chairman of the Organization Committee, Dr. J. A. Pridham; and by the Secretary of the B.M.A. and the Editor of the *Journal*. The British visitors are honoured by the invitation and are assured of a warm welcome from their professional colleagues in the U.S.A. We have pleasure in printing in the opening pages of this issue an article on the history of the American Medical Association from the pen of Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association*.

What first strikes the British observer of the American scene is that the B.M.A. and the A.M.A. are almost contemporaries, because it was only fifteen years ago that the B.M.A. completed the first 100 years of its history. The birthplace of the B.M.A. was the provincial cathedral town of Worcester; the A.M.A. may be said to have been conceived in New York and born in Philadelphia. A meeting was held in the Medical Department of New York University in May, 1846, at which 80 medical delegates from some of the States were present. Dr. Nathan Smith Davis was the Chairman of a committee appointed to bring the subject of medical education before the Convention. This committee put forward four principal proposals. It was desirable, the committee felt, that: (1) a National Medical Association should be founded in the U.S.A.; (2) a uniform and high standard for the M.D. should be adopted by all medical schools; (3) before a young man started as a medical student he should have a suitable preliminary general education; (4) a code of ethics should be adopted for the medical profession. The New York Convention of 1846 also set up committees to consider the registration of births, deaths, and marriages, and the establishment of a nomenclature of diseases to be adapted to the U.S.A. Exactly a year later, on May 5, 1847, the delegates to the National Medical Convention met in the hall of the Academy of Natural Sciences in Philadelphia. Reports were made on the matters discussed the previous year, and it is worthy of note that the resolution on medical education recommended that a young man, before being accepted as a medical student, should be of good moral character and should have acquired "a good English education," a knowledge of natural philosophy and of elementary mathematics, and such acquaintance with the Latin and Greek languages as would enable him to appreciate the technical language of medicine and to read and write prescriptions. Dr. Nathan Smith Davis, who may justly be described as the founder of the American Medical Association, also made the interesting recommendation that a committee should be set up to record the indigenous medical botany of the U.S.A.

The Convention finally got down to the difficult question of organization, and after much discussion on the proposed National Medical Association it was proposed that: "This institution shall be known and distinguished by the name and title of 'The American Medical Association.'" As a preamble to the constitution the purpose of this Association was declared to be:

> "for cultivating and advancing medical knowledge;
> "for elevating the standard of medical education;
> "for promoting the usefulness, honour, and interests of the medical profession;
> "for enlightening and directing public opinion in regard to the duties, responsibilities, and requirements of medical men;
> "for exciting and encouraging emulation and concert of action in the profession;
> "for facilitating and fostering friendly intercourse between those engaged in it."

The founding fathers of the A.M.A., meeting in the city where the constitution of the United States had been drawn up 60 years before, urged the formation of State and local societies. Nathan Smith Davis, who for so many years was to be a powerful guiding force in the A.M.A., was always proud that it was based democratically on local medical organizations and institutions. The foundation stones of the A.M.A. were medical education and medical ethics. The ethical principles adopted were with little alteration those propounded by the English physician Dr. Thomas Percival, F.R.S., who published his code of ethics in 1803. When the code was presented to the National Medical Convention in May, 1846, Dr. John Bell observed: "As it is the duty of a physician to advise, so has he the right to be attentively and respectfully listened to"—an observation which has a strangely modern ring to it. The A.M.A., particularly through the *Journal of the American Medical Association*, has always been a forthright opponent of quackery and has always attacked the purveyors of nostrums and secret remedies with a freedom and courage which we may envy. The attack on these evils began in the very first week of its foundation.

One hundred years ago medical education in the U.S.A. was, to say the least, in an unsettled and unsatisfactory state. Between 1830 and 1845 medical colleges doubled in number and the majority of them were conducted on a commercial basis. By shortening the curriculum and making the terms of graduation easy in order to attract

students and their fees the managers of these colleges did a great disservice both to medicine and to the community. Three years before the A.M.A. was founded Nathan Smith Davis attacked the abuse of the procedure whereby medical students were taught and licensed by the same college. In 1869 we find Dr. William O. Baldwin, who was the president of the New Orleans annual meeting, stating that "almost any body of medical men may obtain a charter for a medical college in most of the States of this Union, with pretty much the same regulations and privileges as they may agree upon among themselves and ask for." The A.M.A. continued its uphill struggle for the reform of medical education and an important step was taken in 1905 by the formation of a Council on Medical Education, to which a full-time secretary was appointed; there had before this been a Committee on Medical Education. This Council, as Dr. Fishbein points out in his article, "undertook to examine the medical colleges and to establish a minimum standard of medical education." It graded medical colleges into Class A, Class B, and Class C. The results of this wholesome classification were published. In 1905 less than 20% of the 165 medical colleges in the U.S.A. came under Class A. To-day the 77 medical colleges in the U.S.A. are rated as Class A, and there is one medical school in inglorious isolation in Class C. As Dr. Fishbein puts it: "The stimulus to improvement was simply annual publication of the facts to both the medical profession and the public." The Council on Medical Education was finally enlarged into the Council on Medical Education and Hospitals. In 1905, also, the Council on Pharmacy and Chemistry was established, although there was much opposition to it: it was described as "the most important and effective measure ever undertaken by this Association to rid the profession of the abuse of the nostrum evil." A year later the Council on Pharmacy and Chemistry asked the Board of Trustees to provide them with a laboratory. The fierceness of the attacks from many quarters on the activities of the Council showed the extent of the evil it set out to combat and the fears of those who anticipated the financial loss of exposure. Needless to say, the Council on Pharmacy and Chemistry successfully rode the waves of opposition and its service to medicine is deeply appreciated by those who are familiar with its reports published in the *Journal of the American Medical Association*.

In the early years of its existence the A.M.A. published an annual volume of *Transactions*, and the value of these *Transactions* was repeatedly questioned by members. A Committee on Medical Literature drew attention to the fact that many medical editors had abandoned their work for other professional activity and that "some had tired of their ill-paid toils and thankless duties, some had been snatched away by the hand of death"—to quote from Dr. Fishbein's "History of the A.M.A."

Dr. S. D. Gross had been to England to look into the way the British Medical Association conducted its affairs and as a result he suggested that the *Transactions* be discontinued and replaced by a periodical publication. The matter came to a head at the meeting of the A.M.A. in New York City in 1880. In his Presidential Address then, Dr. Lewis A. Sayre urged that the example of the British Medical Association be followed. "It is very questionable," he said, "whether the mode pursued by the British Medical Association, in establishing their own journal, would not be an immense improvement on our present method. The British journal is the exclusive property of the Association, and by the liberal compensation of an accomplished editor, a weekly edition is issued, instead of an annual volume." Dr. Sayre attributed the success of the British Medical Association to its journal and observed also that its advertising columns made a useful contribution to its funds. He considered that the combination of an association and a journal in the hands of an editor given full discretion on what to publish was congenial to American ideas. "It is," Dr. Sayre observed, "dependent for its success on the intelligence, union, and good will of the members . . . Above all, it is a most successful and influential means of increasing the membership, enlarging the power, and widening the basis of the association and of making it a living organism during the intervals between the annual meetings." Dr. Nathan Smith Davis was a member of the committee set up to consider Dr. Sayre's recommendations, and a resolution was passed that a weekly journal should be established. The first number of the *Journal of the American Medical Association* appeared on July 14, 1883, and a year later it was announced that as a result of the publication of the *Journal* the income of the Association had increased. It is pleasant to record the fact that in founding the *J.A.M.A.* the American Medical Association freely consulted the then Editor of the *British Medical Journal*, Mr. Ernest Hart, who was invited to go to America to advise them on how such a journal should be launched. A Board of Trustees was set up in 1882 to be responsible for the financial conduct of the *Journal* and to appoint the Editor. The Board then consisted of nine members who served for a term of three years.

The guiding hand of Nathan Smith Davis is clearly visible in the evolution of the American Medical Association up to the end of the 19th century. Throughout the first quarter of the present century the successful expansion of the A.M.A.'s activities owed much to Dr. George H. Simmons—an Englishman by birth and an American citizen by adoption. Dr. Simmons became Editor of the *Journal of the American Medical Association* in 1889 and subsequently joined this office with that of Secretary and General Manager. His influence made itself felt in the reorganization of the A.M.A. in 1900, in his establishment of the printing works of the A.M.A., in the development of the nine specialist publications issued by the A.M.A., and in the publication of a Medical Directory and of that indispensable instrument of medicine the *Quarterly Cumulative Index*, the successor to the *Index Medicus*, founded by John Shaw Billings and continued by Robert Fletcher and Fielding H. Garrison. When Dr. Simmons resigned from the Editorship in 1924 he was succeeded by Dr. Morris Fishbein, from whose "History of the A.M.A.," which has been appearing in the *Journal of the American Medical Association* since November last year, the facts recorded in this article are taken. Dr. Simmons often expressed his wish to be relieved of the duties of Secretary, and an important step was taken in 1922 when Dr. Olin West was appointed Secretary of the American Medical Association.

Dr. West retired from this position in 1946. He was succeeded as Secretary by Dr. George F. Lull, and his services to the Association were recognized by his selection as President of the Centenary Meeting at Atlantic City. Most unfortunately ill-health has prevented him from filling this distinguished office and the Centenary Meeting will be presided over by Dr. Edward L. Bortz, of Philadelphia.

There are now about 190,000 medical men in the U.S.A., and of these 130,000 are members of the American Medical Association. American medicine owes much to the A.M.A., and it is indeed remarkable how great an influence on American life has been exerted by a voluntary organization of professional men, well organized, and wisely led. This great American Association will continue to lead the American medical profession in its adaptation to the changing conditions of modern life; and in doing this it will without question take a firm stand on the principles on which it was founded.

LEPROSY AND ITS PROBLEMS

Leprosy is still a most mysterious disease. An acid-fast bacillus is undoubtedly the causal agent, but failure to transmit and to propagate this bacillus in animals has resulted in failure to determine the means by which infection is transmitted to man. There have been, and there still are, many curious theories to account for human infection. Some African peoples consider that the breaking of food taboos is the real cause. The Lobi, one of the rather primitive tribes which dwell on the banks of the Volta, are convinced that if gold dust comes in contact with their skin they must inevitably acquire the disease. In mediaeval Europe infection was thought to be transmitted either as a venereal disease or by the breath, so that lepers in many areas had to cover the nose and mouth with a cloth. Then came the era when decaying fish was believed to be the true cause, while to-day, though it is generally agreed that leprosy is a disease of low infectivity for man, there is still uncertainty as to how far malnutrition and close association with lepers in conditions of squalor are the main predisposing causes. A new theory has recently been put forward by Moisier,[1] who believes that cockroaches carry lepra bacilli; infection from man to man would then be indirect.

If more were known of the means of transmission we might have a clue to the reasons why at the end of the Middle Ages leprosy practically died out in Western Europe. In the early years of Christendom the disease, which hitherto had been confined to the East, crept slowly along the Mediterranean littoral and by the ninth century it had become firmly established in Western Europe. Yet seven hundred years later leprosy was to be found only in a few out-of-the-way corners. The last British leper whose infection could not be traced directly or indirectly to the Tropics died in 1798 in the Shetland Islands. Was the disappearance of leprosy due to improvements in hygiene and in nutrition? It hardly seems likely, for even in mediaeval Europe, though leprosy was largely a disease of the poor, there were rich and important lepers: Robert the Bruce was possibly not a leper, according to MacArthur,[2] though Louis XI of France may have been, and Baldwin IV, King of Jerusalem, undoubtedly was. Poverty and malnutrition did not cease in England with the coming of the Tudors; in fact, the "sturdy beggars" of Queen Elizabeth's reign were a national problem. If the development of the infection were dependent solely on poor food and worse hygiene it might have been expected that leprosy would have been rare among those Africans who during the war enlisted in the armed Forces, where their food and general living conditions were far better than anything they had previously experienced; yet leprosy developing during their army career was by no means rare even among men with four to six years' service. Nevertheless the appearance of leprosy in a few Europeans who were interned in the Far East, as recorded in the *Journal* of May 24 (p. 731), suggests that malnutrition must play a considerable part in increasing susceptibility to infection.

Was the disappearance of leprosy in Europe due to the isolation enforced? As early as A.D. 583 the Council of Lyons, following the stringent rules laid down in the Old Testament, had prohibited the free movement of lepers. In England the first leper house, of which there were to be more than a hundred, was founded at York in A.D. 936, though in Scotland the isolation of lepers did not begin till 1226, when a leper hospital was built at Rothfan. Lepers were treated as dead and were forced to announce their approach by means of clappers. There must therefore have been many who evaded inspection for leprosy, for people are ever reluctant to face a living death, and, as in Africa to-day, many must have escaped detection until they became too disfigured or too weak to work. Mediaeval leprosy certainly disappeared without any great change in medical treatment, apart from isolation. Although Gilbert, Bernard de Gordon, and others urged an adequate diet the main idea in treatment seems to have been to feed the leper on the worst possible food. Coulton[3] mentions an agreement entered into in 1356 by which the city fathers of Oxford graciously granted to the Chancellor of the University jurisdiction over the market "and over all flesh or fish that shall be found to be putrid, unclean, vicious, or otherwise unfit . . . on this condition, that the things forfeited be given to the Hospital of St. John." This idea evidently became popular, for Comrie[4] records that the Scottish Parliament in 1386 agreed that the flesh of wild beasts found dead must be given to lepers, as well as all pork or salmon found corrupt in the market. The town of Berwick-upon-Tweed thoughtfully added a rider that "if there be no leper-folk, the rotten pork or salmon shall be utterly destroyed."

If individual treatment was ever attempted there were various sovereign remedies. Three black serpents should be caught, their heads and tails cut off, and their middle portions burned in a new pot; white soap and oil were to be added and the whole rubbed in a mortar until thick like honey. This material was applied for three days and the part well washed. If any of the infirmity were left all that was needed was to behead a tortoise, collect its blood,

[1] *E. Afr. med. J.*, 1946, **23**, 295.

[2] *J. R.A.M.C.*, 1926, **46**, 321.

[3] *Medieval Panorama*, 1938, Cambridge.

[4] *History of Scottish Medicine*, 1932, London.

and anoint the affected parts with a feather.[5] The Portuguese in the fifteenth century believed in shipping their lepers to one of the Cape Verde Islands, where the unfortunates lived like aldermen on a diet of everlasting turtle soup. In the meantime both in India and in China chaulmoogra oil had been used in the treatment of leprosy for many centuries. It was first introduced into western medicine in 1854 by Mouat,[6] who reported improvement in a case of leprosy after its oral administration and local application. Although chaulmoogra has since then been used in all forms of leprosy there is still doubt as to its efficacy. McCoy,[7] for instance, in view of the meagreness of the data available and the tendency of many cases to improve spontaneously, is left after twenty-five years' personal experience "with the very definite impression that chaulmoogra oil and its derivatives are of doubtful value in the treatment of leprosy."

Dr. E. Muir draws attention on page 798 of this issue to a new and more hopeful outlook in the treatment of leprosy by means of the sulphones. Cowdry and Ruangsiri[8] were the first workers to find that promin had some curative action in rat leprosy. Later Feldman and his colleagues[9] demonstrated the beneficial action of promin in tuberculosis in guinea-pigs, while Faget and others,[10] who had previously failed to note any improvement in human leprosy from sulphanilamide, sulphathiazole, sulphapyridine, and sulphadiazine,[11] promptly used it on human lepers, reporting far greater benefit than with any other sulphonamide derivative. As Dr. Muir emphasizes, the action of sulphones has not yet been fully tested in all forms of leprosy. Nodular leprosy may possibly prove intractable, for according to O'Leary and his colleagues[12] sulphones such as promin are less active than streptomycin in curing skin tuberculosis. Nevertheless the 2,000,000 lepers in the world, of whom 97.5% are Indian or African, may well take heart, as may those few Europeans who have been so unfortunate as to contract leprosy during the war. An important step has been taken and one which may perhaps end in freeing the world from the scourge and dread of leprosy.

STREPTOMYCIN AND T.B. MENINGITIS

Medical men and the lay public are worried about the question of streptomycin in the treatment of tuberculosis. Occasional appeals broadcast by the B.B.C. on behalf of individual cases increase the anxiety that is felt, and perhaps do more harm than good, because the response to these appeals seldom produces enough "open market" streptomycin to treat the patient in need of it. To discuss the problems that arise from this situation the British Medical Association last week held a conference which was attended among others by representatives of the Ministry of Health, the Ministry of Supply, the pharmaceutical industry, and by Sir Alexander Fleming. The conference concluded at the end of its session that it could make no useful statement to the public. Nevertheless those who attended left with a clearer idea of what the difficulties were as seen by the research worker, the Government departments concerned, and not least the medical practitioner and his patient.

Streptomycin is available in this country in only very small quantities, and these small quantities are being allocated to centres where research can be carefully conducted. There is still much to be discovered about streptomycin, and both medical men and the public must await the information that will be contained in a report from the Medical Research Council later this year. What worries doctors and patients particularly is the difficulty of obtaining the drug for cases of tuberculous meningitis. There is not enough streptomycin to treat all the cases of tuberculous meningitis that exist—a fact which needs emphasizing. Hospitals providing beds for the treatment of tuberculous meningitis with streptomycin are the Great Ormond Street Hospital, the Postgraduate Hospital at Hammersmith, Guy's, the National Hospital for Nervous Diseases in Queen Square, the Alder Hey Hospital in Liverpool, and the Glasgow Hospital for Sick Children. The fact that only six hospitals in England and Wales and Scotland are making available only some of their beds for the treatment of tuberculous meningitis is in itself an index of the extremely small quantities of streptomycin available. We understand, too, that at present only children up to the age of 7 can be accepted for treatment.

It is hoped to increase the supply of streptomycin, and much will depend on the nature of the report expected from the Medical Research Council. Whether more streptomycin might have been obtained, and whether some better organization for treatment could not have been devised, are legitimate questions to ask. For example, it is worthy of note that France is able to obtain more streptomycin than England. Is this because of the dollar situation, or is it because French administration moves more quickly? Prof. Debré has been able to set aside fifty beds in his hospital in Paris for the treatment of tuberculous meningitis with streptomycin, and apparently he has enough of the drug for the purpose of his investigation. We doubt whether anything on a similar scale is being attempted in any one hospital in Great Britain. It is true that the treatment of tuberculous meningitis is in the experimental stage and doubts have been expressed about its ultimate benefit, but these doubts will not be removed and the problem will not be solved until the research worker is given enough beds and an adequate supply of the drug. The report of the French investigation is eagerly awaited.

PENICILLIN TREATMENT OF GONORRHOEA

A. Fischer[1] reports some interesting facts about the treatment of gonorrhoea in Switzerland. Towards the end of the sulphonamide period only 30% of the cases were fully susceptible, 40% being absolutely, and 30% relatively, resistant. The advent of penicillin changed the outlook as radically as had the introduction of sulphonamides in 1936, since it provided the solution to the problem of the sulphonamide-resistant case. Fischer reviews the results obtained with penicillin in 3,600 cases reported by others, and describes those achieved in the treatment of 180 cases in Zürich in 1945. All had a series of intramuscular injections at intervals of two or three hours during the course of a single day. A total dose of 100,000 units gave results slightly inferior to those following 150,000 units. Relapsed cases received a further course, sometimes 200,000 units; most of them responded to the second course and all those requiring it to the third. Tests of cure included chemical provocation by silver nitrate instillation and "biological" provocation by a dose of gonococcus vaccine. It is the

[5] British Museum, *Addit. MSS.*, 26622, f. 130.
[6] *Indian Ann. med. Sci.*, 1854, **1**, 646.
[7] *Publ. Hlth. Rep., Wash.*, 1942, **57**, 1727.
[8] *Arch. Path.*, 1941, **32**, 632.
[9] *Amer. Rev. Tuberc.*, 1942, **45**, 303.
[10] *Publ. Hlth. Rep., Wash.*, 1943, **58**, 1729.
[11] Ibid., 1942, **57**, 1892.
[12] *Arch. Derm. Syph.*, Chicago, 1947, **55**, 222.

[1] *Die Ambulante Tripperbehandlung mit Penicillin.* 1946. Thesis for the Degree of M.D.Zürich.

necessity for such tests and for the expert examination of the secretions obtained which maintains the treatment of gonorrhoea in the specialist category. The administration of the drug is simplicity itself, and if an oil preparation is used of which a single dose will really maintain an effect for sufficiently long it becomes simpler still. All complications were found to respond equally well to this treatment except arthritis, which is known to require a much larger dosage. The dose which it is advisable to use in primary gonorrhoea is limited by the danger of obscuring the manifestations of coincident syphilis. Even so, every patient treated for gonorrhoea with penicillin should afterwards be kept under observation for syphilis. In some of Fischer's cases the development of a positive Wassermann reaction was delayed even by the small dose of penicillin used. A commendably large number of partners is included in this series. Evidently the organization in Zürich makes every effort to treat the source of the infection as well as the patient. In women known to have conveyed the disease gonococci were often not found, though whether cultures as well as films were made is not clear; they were nevertheless treated.

THE ROYAL SOCIETY

Sir Robert Robinson, president of the Royal Society, received the guests at a conversazione at Burlington House on May 29. The many scientific exhibits and demonstrations had been arranged for the occasion by individual scientists, industrial firms, and national research institutions or museums. They ranged from an ingenious model illustrating the release of atomic energy by the uranium chain reaction, to the mandible of a giant hyracoid from the Lower Miocene beds of Rusinga Island, Lake Victoria. The uranium model was set up by the Science Museum, and the successive release of table-tennis balls, representing neutrons, made it all appear like a charming game for advanced children. Alongside the giant hyracoid jaw were the skull and antlers of a Pleistocene fallow deer, while in keeping with the atomic toy were demonstrations of plastic optical components made by reproduction from a master mould by what I.C.I. call the "surface-finishing" process, and an apparatus from the Cavendish Laboratory, Cambridge, showing the use of radar techniques for the measurement of the velocity and absorption of ultrasonic waves in liquids.

An item of medical interest from the Clarendon Laboratory at Oxford was a "radiation-fluxmeter" developed after investigation of a number of serious accidents with radiant heat apparatus. This instrument consisted of two thermo-couples attached to two blackened disks, one of which was exposed to the source of radiation. The air temperature at both disks was the same and the difference in radiation energy impinging on them could be measured for all frequencies from the visible to the far infra-red. A collection of late seventeenth and early eighteenth century microscopes was exhibited by the Wellcome Historical Medical Museum. The Lister Institute showed a crystalline bacterial enzyme. This was the enzyme catalase which decomposes hydrogen peroxide to oxygen and water. It has been isolated from *Micrococcus lysodeikticus* and was said to be the first bacterial enzyme to have been obtained in a pure state. The enzyme is an iron-porphyrin-protein and lysozyme was used in one of the preliminary processes leading to its isolation. The exhibit prepared by the Molteno Institute, Cambridge, included electron photomicrographs of virus crystals. A new plant virus recently crystallized is notable as the only virus known to be transmitted by a fleabeetle and the only insect-transmitted virus in this country not carried by a sap-sucking insect. Thus once again the Royal Society took the opportunity of presenting to its many distinguished guests a series of vivid demonstrations of work that is going on in almost every branch of science.

HOMELESS CHILDREN IN SCOTLAND

In the spring of 1945 the Secretary of State for Scotland appointed a strong committee of lawyers, magistrates, and eminent lay persons, including two women doctors, to sit under Mr. J. L. Clyde, K.C., to investigate the existing provision for children who have no normal home life and to suggest the best measures to compensate for their lack of parental care. The committee's report[1] recommends as a first measure that the care of these children, which is divided between three Government Departments, should be transferred to one department. At present homeless children in every local authority area come under the Education Committee, the Public Health Committee, and the Public Assistance Committee. The report proposes that one committee only should look after these children, with powers and duties extended to give it a uniform jurisdiction. The best solution of the problem, in the opinion of the committee, is a good foster-parent system; this is best suited to provide the child with the necessary individual attention and scope for development of independence and initiative. The way to improve the system is to choose and inspect foster-parents with greater care and discrimination, and to employ more highly trained officers. A standard minimum rate of payment to foster-parents should be fixed for all authorities, and financial gain must never be the main motive. Responsibility for the boarded-out child should rest on the boarding-out authority, as at present. This means, admittedly, an undesirable variation of standards where a number of different authorities are boarding children out in the same small area; on the other hand, if the authority of the area of residence were made responsible, it would be tempted to pass on the difficult children to other areas, disregarding their welfare. The authority of the area should, however, have a right to receive previous official intimation and to exclude a child, subject to appeal. Unsatisfactory foster-parents should be immediately notified to the department. Before being boarded out all children should go to a home for medical and other inspection. The progress of each child should be watched and reported on by a suitable person in the area; each foster-home should be visited by an inspector within a month of the child's arrival and thereafter every six months without notice. A member of the children's care committee should be present at these visits. A local practitioner should give a medical report on the child every six months. All children with foster-parents or in homes should have pocket-money. After-care and the selection of suitable subsequent employment should be an essential feature in the care of children. The present control over voluntary homes should be extended, and their staffs should be more highly trained. Institutionalism should be avoided and every encouragement given to the development of the children as individuals. Large institutions should be split up, and no home should be a poorhouse or an annexe of one. The children should go to a church and school outside the home. Unsatisfactory parents should be prevented from recovering children from care. Where a petition for adoption of a child is refused the court should have discretion to direct its removal to a place of safety. The maximum age of a child subject to care should be raised to 18. An advisory committee should be set up to advise the Secretary of State on the methods in use.

[1] *Report of the Committee on Homeless Children.* Edinburgh, H.M. Stationery Office, 1946. 9d.

PRESENTATION TO THE AMERICAN MEDICAL ASSOCIATION

A Gavel and Block made from the mulberry tree which grew in Charles Dickens's home in London, now the site of B.M.A. House, will be presented by the B.M.A. delegation to the American Medical Association on the occasion of its centenary celebrations in Atlantic City in the second week of June. The block is inscribed with these words:

TO THE AMERICAN MEDICAL ASSOCIATION ON THE OCCASION OF ITS CENTENARY
AS A TOKEN OF GOOD WILL FROM THE BRITISH MEDICAL ASSOCIATION
THIS GAVEL AND BLOCK MADE FROM THE MULBERRY TREE
WHICH GREW
IN THE GARDEN OF CHARLES DICKENS'S HOME IN LONDON
WHERE THE BRITISH MEDICAL ASSOCIATION HOUSE NOW STANDS
JUNE, 1947

Charles Dickens took Tavistock House in 1851 and the mulberry tree was in the garden; it was still there when the British Medical Association moved into Tavistock House in July, 1925. It has since then had to be cut down, but the wood was preserved and out of this wood the gavel and block have been made. Dickens lived in Tavistock House for nine years. At one time Hans Christian Andersen stayed with him, and he describes how, "On the first floor was a rich library with a fireplace and a writing-table, looking out on the garden; and here it was that in winter Dickens and his friends acted plays to the satisfaction of all parties." Dickens's nine years in Tavistock House formed "the most brilliant period of his career," to quote from an article in the *Journal* of July 18, 1925. It was in Tavistock House that he wrote, or began to write, *Bleak House, Hard Times, Little Dorrit, A Tale of Two Cities,* and *Great Expectations.*

NEW ASPECTS OF INSULIN ACTION

Several interesting points came up in a more or less informal discussion in the Section of Endocrinology of the Royal Society of Medicine when the subject of new aspects of insulin action was introduced by Prof. F. G. Young from the biochemical side and by Dr. R. D. Lawrence from the clinical. One question which arose concerned haemochromatosis, described by one of the speakers as a form of diabetes in which there was the pathological lesion and yet a distinct clinical entity was present. If ever there is a form of diabetes which can be attributed to failure of insulin production in the pancreas, as Dr. W. G. Oakley pointed out, it is the form associated with haemochromatosis, and yet this type of diabetes has certain features which differentiate it from all other types. Many of the complications associated with diabetes are never or rarely seen in this condition. Retinitis is said never to develop, ketosis only seldom; a definite coma is extremely uncommon. Thus there is here one form of diabetes in which the pathology appears to be as straightforward as in any of the other varieties, and yet the clinical picture differs from the types customarily considered as being due to primary insulin deficiency. This aspect has not been investigated as much as it might have been.

Some 75 cases have been recently published in French literature, and at King's College Hospital, London, there have been 20 or more. Dr. Lawrence described haemochromatosis as a severe type of diabetes caused by the undue disappearance of the island function of the pancreas owing to the haemochromatic process. He said that certain of these patients did die in coma, but it was true that the ghastly complications commonly met with in ordinary forms of diabetes—arteriosclerotic changes, retinal changes, kidney changes, and gangrenous effects in the foot—were never encountered. While in America Dr. Lawrence had tried to interest the American Diabetes Association in the subject, in view of their large field of observation, urging that they get together all their cases of haemochromatosis, in particular examining those which had had the condition for ten years, and finding out whether they were completely immune from the diabetic complications mentioned. If such immunity were established, he said, another cause for such complications should be sought. These complications being absent in haemochromatosis, there must be some other factor which caused them in ordinary forms of diabetes.

Carbohydrate Oxidation

The question of carbohydrate oxidation was another point raised in the discussion. Prof. Young suggested that there was no reason to suppose that carbohydrate oxidation could go on in the body as a process independent of the presence of insulin and also of the anterior pituitary hormone, though the process, nevertheless, was influenced by them. The suggestion was made a good many years ago, he said, that the action of insulin and the anterior pituitary hormone in this respect could be regarded as somewhat analogous to the action of the sympathetic and parasympathetic on the heart; in other words, they did not initiate the process, which went on independently of them, but they influenced it antagonistically. A further point arose out of Dr. Lawrence's observation that high blood sugar was the damaging agent on the islands of Langerhans in the pituitary-induced diabetes. This might be so, said Prof. Young, but he could not accept it as proved. He thought it possible that there was an inhibitory action of the hormones on the islands themselves, and that this in turn might cause degeneration when the islands were subjected to this action under conditions of high blood sugar.

In his view the high blood sugar was not the only damaging factor in these cases. The clinical condition of diabetes, and indeed other conditions, might arise. not necessarily from deficiencies of hormones directly, but from deficiencies of the enzyme system on which the hormones acted. There was no reason why there should not be congenital partial deficiency of the enzyme system. Recent work had suggested that probably there were inherited deficiencies as regards amino-acid synthesis because of the deficiencies of the enzyme system originating in our ancestry. Prof. Young also referred to a case recently published in Brussels of a young girl who came for treatment for amenorrhoea, and during three years under observation developed acromegaly and then diabetes of a relatively mild type. After a further eighteen months she had a cerebral haemorrhage. Her sugar tolerance was abnormally high and her fasting blood-sugar level abnormally low. It seemed that the islands of Langerhans had hypertrophied under the influence of pituitary secretion, when possibly some pituitary tumour had developed and had undergone a sudden dramatic remission.

IMPROVEMENTS IN ARTIFICIAL LIMBS

MINISTRY OF PENSIONS DEMONSTRATION

A demonstration of limb-fitting which attracted unusual interest was given on March 25 at the Roehampton Limb-fitting Centre attached to Queen Mary's Hospital. It was arranged by the Ministry of Pensions Standing Advisory Committee—a committee set up by Parliament two years ago to initiate research work on improvements in artificial limbs and similar devices. About twenty amputees demonstrated the facility with which they could use their artificial limbs.

Sir Charles Darwin, chairman of the Advisory Committee, said that its work might be divided into research, invention, and "intelligence," and the research programme into the work done on legs and on arms. The main interest in the leg had been the search for minor improvements, for excellent artificial legs already existed. The arm, owing to questions of muscular control and mechanical adaptation, presented a more difficult problem, and it had been estimated that twenty years was required to attain maximum skill with an artificial hand. In the field of invention the committee had considered over 100 devices, of which some 24 had survived. So far as "intelligence" was concerned, the most important thing had been the contact which the committee had had with other countries. It was in regular correspondence with a similar committee in the United States and another in Canada, and had undertaken a mission in Europe. A statistical analysis of all artificial limb cases in this country was being prepared; it was hoped that such a classification would help not only surgeons in arriving at the best methods and sites for amputation, but limb-makers in ascertaining where breakdown was liable to occur.

Sir Walter Haward, Director-General of Medical Services of the Ministry of Pensions, mentioned that there were now nineteen limb-fitting centres in various parts of Great Britain. The influence of Roehampton was apparent in all of them.

Dr. J. Craft, of the research department at Roehampton, with the help of patients carried through an excellent demonstration. He began with a number of women amputees. Experiments had been made with different forms of corsets, each individually made, from which an artificial leg could be suspended. It had been hoped that nylon would be of assistance, but it was a non-extensible fabric and did not wear well, so that the corsets had to be made of a stronger material. The corset, which was shaped to the body, took the place of the leather belt formerly worn around the waist. Several women demonstrated the perfect fitting of the limb. One of them, with a below-knee amputation, was a skater. For men the usual support was a leather waist-belt and a strap over the shoulder, but it had been possible to discard the shoulder harness in some cases and to attain a better gait.

The suction socket was the subject of experiment in this country after the war of 1914-18, but was dropped for various reasons. During a recent visit to Germany a remarkable number of suction sockets with no suspension at all were found among war amputees. The principle was a vacuum under the base of the stump. Here again a number of men, some of whom had had their new limbs only for a few weeks, demonstrated their ease in walking with this type of limb. The correct shape of the interior of the socket, Dr. Craft said, was being worked out. In the new type the stump was pulled into the socket, whereas in the old type it had to be pushed in, which meant wrinkling around the perineum and the great trochanter.

In the case of the arms the fitting of the socket was of great importance. In the newest limb demonstrated there were nine different locking positions, and there was bisection in the mid-forearm instead of, as usual, at the wrist, which was said to be an advantage. Dr. Craft also showed various examples of mechanical hands with attempts at finger control, but he said that the Ministry had come to the conclusion that mechanical appliances attached to the extremity were better for amputees than attempts to reproduce the five-fingered hand. A number of the men with these mechanical devices showed how they were able to perform their toilet, to use small tools, and to undertake drawing and typewriting.

Cineplastic and Krukenberg Operations

Prof. T. Pomfret Kilner then continued the demonstration by showing the results of the Sauerbruch cineplastic amputation and the Krukenberg operation, and some young Germans who had sustained upper-limb amputations assisted him. Prof. Kilner said that he had entertained the hope that close co-operation between orthopaedic and plastic surgeons on the one hand and limb-fitting surgeons and limb-makers on the other might assist the cineplastic procedure for upper-arm amputations in this country; in this he had been disappointed. There was a general impression that the skin tunnels made in this procedure gave considerable trouble and that the range of movement and motor action was so much restricted as to make the method useless for operating the artificial hand. The Ministry, however, had retained its interest in this subject throughout, and inquiries were made of people who had seen such work in Germany and elsewhere.

The Sauerbruch cineplastic procedure consisted in the preparation of one or more skin-lined tunnels in muscles which were used to activate the artificial hand. They might be made in the flexor or extensor muscles of the forearm or in the corresponding muscles of the upper arm. They gave sufficient sources of control both to fingers and to elbow, in some instances supplying both supination and pronation of the forearm. This operation did give the patient extra motor points. Occasionally the skin tunnel was made through skin only, not through muscle, and was used for suspension or retention of the prosthesis. In the Krukenberg operation the forearm was split longitudinally to produce "pincers." The local skin of the forearm was raised to cover the outer digit of the "pincers," while the inner digit was covered by a skin flap taken from the abdominal wall.

As for the application of these procedures, in the through-wrist amputation the valuable movement of pronation and supination was employed to give flexion and extension of the fingers of the artificial limb, or movement of the jaws of the various gadgets which could be attached to the extremity. When the forearm had been amputated but the stump was long from elbow to extremity—17 cm. and upwards—either the Krukenberg or the cineplastic procedure might be carried out with satisfaction. If the amputation was shorter than 17 cm. the Krukenberg was not indicated, but cineplastic procedures might be carried out, forearm flexors and extensors being used for movements of the fingers, while the shoulder harness might be employed to give pronation and supination to the prosthesis.

Both procedures appeared to give stumps capable of resisting ordinary wear and tear, but in Germany no cineplastic case was observed performing heavy manual work. Only clerical work or work calling for fine finger movements was done. The Krukenberg procedure was essentially one for the double amputee; the man with one good limb was unlikely to concentrate on the training of the Krukenberg stump. He saw in Berlin a Krukenberg case of six years' standing, and the man was able to lift a 70-lb. (32-kg.) weight, as well as to play tennis and shave. With the cineplastic device it was possible also to pick up matches with forceps, take coins out of a purse, fasten buttons, and so on. It was estimated that from 6 to 8 months was required for operation and training, but where a good Krukenberg procedure could be performed it gave the stump a greater usefulness than any other method. The appearance, like that of artificial limbs in general, was odd, but not repulsive.

A number of young Germans who had undergone operation in their own country then showed what they could do with the cineplastic and Krukenberg devices. One of them, when asked why he elected to have the Krukenberg, replied that he wanted to be independent of all types of artificial limbs and other gadgets; but in general the frequency of the Krukenberg procedure was attributed to the lack of artificial limbs, which was very apparent in Germany. It was admitted that the Krukenberg limb caused fatigue pains in the muscles to develop rather quickly during sustained employment.

ESKIMO DENTITION

Dr. P. O. Pedersen, the distinguished Copenhagen odontologist, gave an interesting account to the Odontological Section of the Royal Society of Medicine on April 14 on three expeditions which have gone to Greenland in recent years to investigate the teeth of the Eskimo. On the eastern shore of Greenland, Danish colonization and white contact began only some 50 years ago, but western Greenland has been colonized for more than 200 years; its harbours are the doorsteps of Western civilization, and here the natives have settled in permanent dwellings and have drastically changed their dietetic habits. At the beginning of the present century the calorie requirements of the West Greenland population necessitated only some 17% of imported food; the latest figures suggest that over 50% of the food is imported. The consumption of sugar in West Greenland has reached or surpassed the high levels of countries like Denmark and the United States. All this is reflected in the state of the teeth of the population. One of the main subjects of study of the expeditions (which were undertaken under the auspices of the Royal Danish Colonial Institute and the Danish Dental College) was the extent of dental caries. An examination of over 500 Eskimo skulls found in an old burial place revealed only two carious teeth out of 5,745 teeth examined, and it was not entirely beyond doubt that the skull in which these carious teeth were found belonged to the period before the white invasion.

It can be said with a fair degree of confidence that there was no caries in Greenland in pre-Danish times. To-day caries is a common disease among the Eskimo population. Even in the trading posts of eastern Greenland, where white contact dates back only for half a century, caries has risen to a considerable level, and in western Greenland, which has known the white man and his ways for a far longer period, the incidence is

alarming. More than 50% of the deciduous teeth of the Eskimo children at the trading stations in western Greenland are carious. The incidence is as high as in the old countries of northern and western Europe, perhaps even higher. In the villages away from the trading centres and harbours only 5% of the people show evidence of caries. The younger adults are far more frequently affected than the old.

Teeth and Ethnography

Teeth, small and insignificant in themselves, as Dr. Pedersen said, are big with meaning. They are at once the most plastic and most conservative of structures. A close study of dentition is useful not only in indicating social change but in interpreting anthropology and ethnography, and among the still partly unsolved problems of ethnography is that of the origin and migration of the Eskimo. For example, shovel-shaped incisors are almost universally found among the Eskimo—a characteristic which they share with Mongolian stocks in eastern Asia, but their cusp numbers and occlusal patterns resemble more closely those found in fossil apes than those in any racial or ethnic group known. Enamel extensions from gingival margins are normal among the Eskimo of Greenland and are frequently present to an extreme degree. Supernumerary roots are also frequent. Disturbances of enamel and dentine formation are rare. Some women show a form of dental fluorosis, caused by mixing a certain amount of creolite powder into their snuff, and the fluorosis is transmitted to their children. On the other hand gingivitis, which is widespread, is found with greater frequency and to a more severe degree among men than women—a circumstance put down to the fact that men are more addicted than women to chewing a tobacco quid. Loose teeth are met with in the primitive Eskimo only under very special conditions, such as the loss of the opposite tooth, thereby depriving the other of function.

One characteristic of Eskimo nurture remarked upon by Dr. Pedersen (though he did not elaborate its possible bearing upon dentition) is that children frequently remain at the breast until they are six or seven years old. Indeed, in the primitive community if the child could not be suckled by the mother or some other woman it would perish. Dr. Pedersen said that he had actually seen a boy of six who was still at his mother's breast, but had in the meantime acquired the art of smoking cigarettes.

Nova et Vetera

THE ROTUNDA HOSPITAL BUILDINGS

The Rotunda Hospital: Its Architects and Craftsmen. A study by C. P. Curran with photographs by E. Phyllis Thompson. At the Sign of the Three Candles, Fleet Street, Dublin: 10s. 6d.

Moved by the bicentenary of the Rotunda Hospital, Dublin, Mr. C. P. Curran has composed an agreeable essay on the history of the hospital in the 18th century from the standpoint of the arts. In this he has had the collaboration of a skilful photographer, Miss E. Phyllis Thompson. The craftsmen with whom he is mainly concerned "are not unworthy to stand beside those others—physicians and scientists—of whom Dr. Kirkpatrick has written in his *Book of the Rotunda Hospital*, the authoritative work to which this essay is a footnote." Dr. Ninian Falkiner, Master of the Rotunda, expresses his thanks in a foreword to author and illustrator for having carried out this work as their tribute to the memory of Bartholomew Mosse.

On March 15, 1745, Dr. Mosse, then a young surgeon and obstetrician of philanthropic turn, opened his private lying-in hospital for poor women, which led directly to the establishment of the Rotunda and was the first charity of its kind in these islands. From the beginning Mosse mixed his own relish for the fine arts with every scheme for the development of his hospital, using assemblies, balls, concerts, card parties, and lotteries to catch the fashionable public. He chose the most eminent architect in Ireland for his building, and the most distinguished sculptor available to embellish its corridors and gardens. The foundation stone of the new building was laid on July 9, 1751, and in 1757 the first patients were received.

The architect was Richard Cassells, a German born at Cassel in Hesse. Some of Mr. Curran's study is devoted to answering questions which arise concerning Cassells's work: How comes it that a German architect born about 1690 should be so detached from the baroque of his period? Why should he build in a specially severe form of Palladianism, and why should he mix Dutch elements with his Palladianism? In the hospital accounts the main craftsman in plaster is described as both a statuary and a "stucco-man"; his style is distinctive and unlike anything else in Ireland; but Cramillion was not the only "stuccodore" engaged in or about the hospital—chief among his followers was Robert West.

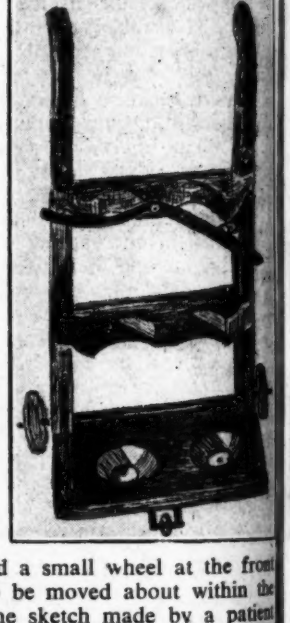
The round room, or rotunda, whose name has gradually passed to the hospital itself, was built by John Ensor in 1764. Though Ensor built no other public building, his share in the domestic architecture of Dublin, Mr. Curran says, is even more extensive than that of Cassells; he left his mark on the city in the characteristic layout of its squares. The last stage in this building history began in 1784. Richard Johnstone was appointed architect of the new works and he designed the present Cavendish Row frontage. From the outset Dr. Mosse planned his New Gardens as a place of fashionable entertainment in support of his hospital, and the proceeds from this venture were very considerable. The direction of the music, as of everything else, lay in Mosse's hands, assisted by his nephew, and Mr. Curran enters with relish into details of some of the programmes and performances. His Appendix of Craftsmen is followed by a list of 18th-century musicians who helped the project. Miss Thompson's photographs are grouped at the end of the book, except that of the bust of Bartholomew Mosse (1757). The frontispiece is from an engraving of the exterior of "The Lying-in Hospital and Rotunda, Dublin," dated 1830. Mr. Colm O Lochlain, as typographer, has produced a shapely volume, pleasing to the eye.

Preparations and Appliances

TROLLEY FOR GAS CYLINDERS

Dr. G. O. COWDY, The Old Manor, Salisbury, writes:

In this large mental hospital the wards are separated by considerable distances, which raised the problem of a convenient apparatus for the conveyance of oxygen and carbon dioxide cylinders from one ward to the other. The difficulty was made more acute by the fact that in many cases the wards are only joined by gravel paths over which it would be almost impossible to push any ordinary four-wheeled trolley. The problem was put to our chief engineer, Mr. F. Baum, who has designed a two-wheeled trolley. This has proved so successful that I thought the design might be of general interest.



Basically it is like the hand-trolleys used on railway platforms. Two hollows in the base take the lower ends of the cylinders, which rest in grooves in the cross-pieces of the trolley. Leather straps secure them near the upper ends and prevent them from falling forward. The two main wheels are rubber-tyred and a small wheel at the front of the base allows the trolley to be moved about within the ward in an upright position. The sketch made by a patient shows the general construction.

My thanks are due to the medical superintendent, Dr. S. E. Martin, for permission to record the details of this apparatus.

Reports of Societies

THE NURSING SHORTAGE

At a joint meeting of the Society of Medical Officers of Health (Fevers Group) and the Medical Superintendents' Society (London and Home Counties Branch) held at B.M.A. House on March 14, Dr. WILLIAM GUNN, president of the Fevers Group, took the chair. A discussion on the "Nursing Shortage" was opened by Dr. H. STANLEY BANKS, president of the London and Home Counties Branch of the Medical Superintendents' Society, Dr. E. B. BROOKE (Surrey), Dr. O. W. S. FITZGERALD (Herts), and Dr. W. F. T. MCMATH (Willesden). At the request of the meeting, the points raised in the discussion were embodied in a memorandum, drawn up by the openers, which is here summarized.

Character and Incidence

There are said to be more nurses in the country to-day than ever before. This may be so, for nurses are now employed much more than formerly in attractive jobs outside hospitals. Further, the shorter hours now worked in many hospitals necessitate an increase of some 10 or 12% in the number of nurses staffing a given number of beds. It is in the local authority hospitals, the special hospitals, and the smaller voluntary hospitals that the acute shortage exists. Most of the local authority general hospitals in London have had to close down about half their beds, and the fever hospitals even more. This affects thousands of cases and also the fever hospital training of medical students and graduates.

The great London voluntary hospitals are said to have no shortage of nurses. This is, doubtless, partly due to the inherent attractiveness of these hospitals. These discrepancies in staffing as between different kinds of hospitals have been greatly exaggerated since the Rushcliffe scales of salary were introduced in 1943. The Rushcliffe policy of uniformity of salary scales for all hospitals, regardless of their varying appeal to prospective nurses, is a major factor in the shortage.

The average female population from which nursing recruits may be drawn dropped from 361,000 in the quinquennium 1922–6 to 301,200 in the quinquennium 1942–6, a decrease of 16% in 20 years. Owing to the continued low birth rate during the years 1930–45, the available population is likely to decrease further, and for the next few years the female population available as potential nursing recruits will be some 20% less than that available a quarter of a century ago.

Alternative Employment

From this diminished female population the proportion attracted to industry, to the Services, and to clerical and administrative work has increased as compared with that entering hospital nursing. The reasons usually advanced for this include higher wages, shorter hours, and home life or unrestricted private life. On the other hand, the nurse's life has been represented for years as one of "genteel poverty," hard domestic work, long hours, and semi-monastic existence. In fact remuneration (except for student nurses) has been substantially increased, ward orderlies are being recruited for the more menial tasks, there is minimal interference with the nurse's private life, and any qualified nurse may live out. These facts should be publicized in every possible way.

The shortage of nurses at present is one mainly of entrants to the profession. All our observations indicate that, in London at least, the foremost reason for this shortage is the low salary offered to nurses in training. The Rushcliffe Committee rightly considered the nurse's prospects after training to be more important than an attractive salary during training. But the salary of trainees was fixed at figures which are now below the economic level, and require subsidy from private sources, at least in London, if a reasonable standard of existence is to be maintained.

Salary Scales

The Rushcliffe salary scales for student nurses, although slightly increased since 1943, have been rendered out of date by the rising cost of living and by the "Hetherington" scales for female domestic staff and the "Mowbray" scales for male domestic staff. The "Mowbray" scales recognize the principle of a "loading" of about 15% for London. This principle should certainly be applied to nurses' remuneration.

Weekly Wages of certain Resident Staff
(plus board, lodging, and laundry)

	£	s.	d.
Student Nurses, 1st year	1	1	2
" " 2nd year	1	5	0
" " 3rd year	1	8	10
Staff Nurse (Fever Trained), 1st year ..	2	2	4
" " (General Trained), 1st year ..	2	6	2
General Trained Student Nurse (Fevers)	1	14	7
Ward Orderly	2	9	6
Domestic Assistant	2	7	6

A student nurse has to work and study for at least five years before she attains to the remuneration of a ward orderly, or of a ward maid aged 18, over whom she is set in authority. When superannuation, insurance, and other necessary contributions are deducted she has some 17s. or 18s. a week on which to clothe herself, travel, entertain herself on her day off, meet personal items of expenditure, buy textbooks, pay examination fees, etc.

It is clear that a higher salary (or training allowance) for student nurses is needed *in those hospitals which cannot now attract recruits.* It should not be applied uniformly everywhere, for that would not cure the maldistribution of student nurses that now exists. In order to preserve the balance, higher salaries—for example, £100 plus emoluments—are needed in the less attractive hospitals, and in London there should be a "loading" of 15% to 20% as in the "Mowbray" scales.

Formerly the sense or spirit of "vocation" was one of the most powerful motives in the recruitment of nurses. This motive should be fostered in recruitment, especially among senior school girls. In these times of economic stress, however, it is useless to rely upon the vocational motive alone, without at the same time offering reasonable monetary inducements.

The Gap in Training

Many potential nurses are lost because their interest is not sustained between the school-leaving age and the age of entry as a student nurse. To obtain adequate numbers of suitably educated nurses education authorities will have to set up pre-nursing training schools for suitable girls. A small maintenance grant would be necessary in most cases, especially in London. Subjects of instruction should include mothercraft, nursing, anatomy, physiology, hygiene, dietetics, and domestic science. Visits might be made to day nurseries and hospitals and in the last year of the course the girls might be fully employed in day and residential nurseries. An admirable scheme of this sort is in operation in Dundee.

Basic Practical Courses

The regulations of the General Nursing Council are too exclusively directed towards the enhancement of the professional status of the nurse and too little towards the production of sufficient practical nurses to care for the sick. The numbers of nurses required is so large that it is wasteful to try to train them all to undertake the most highly skilled work. The hospitals demand large numbers who need no more than the basic skills of practical nursing and only relatively few with an advanced theoretical training. But the former group must be thoroughly trained in practical bedside nursing, must be accorded the status of "nurse" and not "assistant nurse" and have remuneration adequate to their status. The regulations of the General Nursing Council should be re-designed to this end, and the Council should be responsible for ensuring that its regulations for training are compatible with an adequate flow of recruits to the profession.

A shortened practical basic course of two years' duration should be undertaken by all nurses. This should include three or four months' whole-time theoretical training in elementary physiology, hygiene, and dietetics, but the main emphasis should be on bedside nursing. The examination should be entirely practical and should lead to qualification as "enrolled nurse." The practical training should be taken in any general *or special* hospital of suitable size. The status and remuneration attached to the grade "enrolled nurse" must be sufficient to satisfy the large numbers who would elect to remain in this grade. For those who wish to rise to the rank of ward sister there should

be one year's higher training followed by a theoretical and practical examination leading to qualification as a "State Registered Nurse." The minimum age of enrolment as a nurse should be 20 years, and of registration 21 years.

Foreign Trainees

The reduction in potential recruits and the great demand for female labour in industry point strongly to the need for foreign immigrants sufficiently educated to train as nurses. There are still large numbers of suitable young women on the Continent willing and anxious to come to Britain for such a purpose. Trained nurses, whether of foreign or national origin, are never likely to become a burden on the community through unemployment but are likely to remain as permanent assets. The employment of part-time nurses, on the Gloucestershire model or otherwise, should also be encouraged.

TUBERCULOSIS OF BONES AND JOINTS

The Spring Meeting of the British Orthopaedic Association was held at University College, Exeter, and the Princess Elizabeth Orthopaedic Hospital on April 25 and 26 under the presidency of Mr. GEORGE PERKINS, *M.C.*

A symposium on the surgical treatment of tuberculosis of bones and joints was opened by Mr. G. R. GIRDLESTONE, who stressed the importance of strict criteria in the estimation of results, and remarked upon the rarity of dissemination by operation if well timed and if preceded and followed by immobilization. He condemned concern with the local lesion to the exclusion of the tuberculous patient as a whole, and emphasized the importance of prolonged care after discharge from hospital. He attached much importance to serial estimations of the erythrocyte sedimentation rate in assessing progress.

Mr. NORMAN CAPENER reviewed tuberculous disease of the spine in 351 cases, emphasizing the difference of the disease and response to treatment in children and adults. In the first 15 years lower thoracic (dorsal) disease predominated; afterwards, lumbar. 177 cases were treated by arthrodesis, with no mortality in the first 9 months; the tibia providing the graft fractured only once, in contrast with the experience in traumatic cases. He thought that the key to the treatment of thoracic spinal disease might be treatment of the abscess.

The Hip-joint

Mr. M. C. WILKINSON, speaking of tuberculous disease of the hip-joint, had found an unstable hip in 22 out of 50 treated conservatively alone. The value of operation was measured by its success in securing stability and in safeguarding against recurrence. His operative mortality in 75 cases was early 2 and late 2. He had particularly practised osteotomy, with medial displacement of the distal fragment, but lately he had supplemented this with an extra-articular femoral graft slid along the upper border of the neck. Operation was performed in the presence of active disease after the patient's resistance had been raised by conservative treatment; and the re-ossification which ensued might be ascribed to auto-inoculation or to the decompression of tuberculous foci. Bony ankylosis might take as long as two years, though the hip usually became quite stable before this. Mr. Wilkinson's view that displacement osteotomy was often of great value in the treatment of tuberculous hip-joints was supported by Mr. D. WAINWRIGHT, who showed how a combination of osteotomy and an ischio-femoral graft produced rapid bony ankylosis, and he showed also the result of supplementing long oblique osteotomy by traction, so that not only was apparent lengthening produced by angulation, but also real lengthening by distraction. Dr. J. DELCHEF advocated early arthrodesis while the disease was still active. Mr. H. A. BRITTAIN considered that the hip demanded different treatment from the other joints of the lower limb because it could be short-circuited from weight-bearing by ischio-femoral arthrodesis.

Mr. J. P. CAMPBELL reviewed 89 cases of tuberculosis of the knee-joint treated at Harlow Wood Orthopaedic Hospital; a quarter of the cases were purely synovial in type. Some cases with osseous lesions developed a serviceable range of movement. Intra-articular arthrodesis resulted in bony fusion much more quickly in cases of more than three years' standing than in more recent cases similarly treated. Bone-grafting operations were reserved for adults, in whom they supplemented intra-articular arthrodesis, or were used to promote bony fusion where resection of the joint alone had failed. Dr. J. MORTENS, reviewing 76 cases, concluded that arthrodesis should be postponed to the age of 13 or 14 if an epiphysis was involved, but that otherwise 9 years was not too young an age for the operation.

In considering 118 cases of tuberculosis of the foot and ankle, Mr. B. L. MCFARLAND contrasted the very good though slow response to conservative treatment in children with the frequently poor result in adults, in whom dissemination or sinus formation frequently determined amputation. Conservative treatment, with or without arthrodesis, might be indicated in some younger adults, but in the older patient with tuberculosis of ankle or tarsus amputation was not merely justifiable but often imperative.

Mr. J. A. CHOLMELEY reviewed 94 of 100 cases of tuberculosis of bones and joints of the upper limb treated in the Royal National Orthopaedic Hospital (Country Branch) in the years 1924-46. The parts affected were: shoulder in 36 cases, elbow in 25, wrist in 22, metacarpals and phalanges in 10, and humeral shaft (local lesion) in 1. All patients received conservative treatment, supplemented in a few by operation: arthrodesis of 8 shoulders in adults; excision of an elbow, and partial excision of another with drainage for secondary infection; local excision of the local humeral lesion. Arthrodesis of the shoulder, which was often determined by occupation, gave good results in adults, with bony fusion in every case, whereas recurrence took place in 3 of the shoulders not operated upon. Two elbows, including that excised, showed recurrence. There was none in the wrist, metacarpal, phalangeal, or humeral cases.

Sir REGINALD WATSON-JONES concluded that tuberculosis of bones and joints presented, from the viewpoint of treatment, two diseases—that in children and that in adults. Both demanded conservative treatment; in children this sufficed, but in adults it should often be supplemented by surgical fusion after quiescence of the disease. The position was reversed in the case of the spine, which should be more often arthrodesed in children and more rarely in adults, because in children conservative treatment of dorsal disease left an unstable spine with increasing deformity, whereas in adults lumbar disease nearly always led to spontaneous ankylosis.

Smith-Petersen's Cup Arthroplasty

Dr. M. N. SMITH-PETERSEN, who was elected an Honorary Fellow of the Association, gave a lucid account of his operation of cup arthroplasty of the hip illustrated by slides and films. The restoration of shapely, smooth, cartilaginous articular surfaces was convincingly demonstrated. Mr. W. ALEXANDER LAW had found that some 80% of Dr. Smith-Petersen's cup arthroplasty operations gave a result satisfying to patient and surgeon, but it was essential that the former should co-operate actively with exercises for two years.

Other Communications

Mr. H. G. S. KORVIN concluded from radiological evidence that the pathological changes in pseudocoxalgia were those of ordinary aseptic necrosis and that destructive changes were the biological consequences of the mechanical damage of weight-bearing. Mr. F. C. DURBIN had followed up 525 cases of sciatica and selected 147 cases of sciatica with neurological signs treated without operation. Of 123 receiving plaster jackets 79 patients were relieved or cured. Mr. G. BLUNDELL JONES had investigated the penicillin content of the synovial fluid of knees with open war wounds 48 hours after a single instillation of 100,000 units. He found retention, in adequate concentration, provided the effusion was not diminishing. Absorption of effusion led to more rapid disappearance of intra-articular penicillin, but at this stage penicillin was no longer needed in the joint. Penicillin given intramuscularly was not found in adequate concentration in the synovial fluid of the joint if completely immobilized.

Mr. A. L. EYRE-BROOK showed a patient with bilateral cineplastic forearm stumps and two patients with Krukenberg forearm stumps. The success of the operations (performed by German surgeons) was undoubted, and function appeared particularly good in the Krukenberg stumps on account of the preservation of sensation.

Correspondence

Tudor Edwards Memorial

SIR,—Subscriptions are invited to a fund for the establishment of a memorial to the late Mr. Arthur Tudor Edwards, M.D., M.Ch., F.R.C.S., who died on August 25, 1946, at the age of 56.

The remarkable progress of chest surgery in this country is in large measure due to Tudor Edwards's work. His pioneering in this branch was in the main the chief stimulus to its expansion. His singleness of purpose, and the high standard which he set for himself and all those who worked with him, raised a small but important branch of surgery to its present position as one of the great surgical specialties. As the result of this development, men and women have been restored to life and health for whom previously medical science offered no effective aid. Tudor Edwards literally devoted his life to his work. He was unsparing in his service to his patients in all walks of life and many came to him from other countries. On the outbreak of war, in addition to his other work, he undertook the organization of thoracic surgery for the Emergency Medical Service of the whole country and for the Army and Royal Air Force. He carried this heavy burden throughout the war despite the gravest warnings and with the full knowledge that his life thereby would be shortened. One of his greatest contributions was his training and inspiration of younger men who came to him from all parts of this country and from abroad.

There could be no better memorial than to continue this work which was so close to his heart: the training of young surgeons to build on the foundations he so securely laid. It is proposed that a Travelling Scholarship shall be founded in Tudor Edwards's name, to enable suitable candidates to study thoracic surgery in special centres. This also will fulfil an urgent national need. For this purpose, a capital sum of at least £10,000 will be required. The Royal College of Surgeons and the Royal College of Physicians have agreed to administer the fund and carry out the conditions of the Trust. Donations and subscriptions under deed of covenant should be sent to: The Hon. Treasurer, The Rt. Hon. Lord Courtauld-Thomson, K.B.E., C.B., Brompton Hospital, London, S.W.3.—We are, etc.,

HORDER (*chairman*),	I. W. MAGILL,	
DUDLEY,	GEOFFREY MARSHALL,	
COURTAULD-THOMSON,	MAX PAGE,	
STANFORD CADE,	GEOFFREY S. TODD,	
D. T. DAVIES,	R. A. YOUNG,	
HORACE EVANS,	C. PRICE THOMAS	*Honorary*
T. JENNER HOSKIN,	F. G. ROUVRAY	*Secretaries.*

Brompton, S.W.3.

Calories

SIR,—The claims that we are seriously short of calories are, at least, exaggerated, but it is unfortunate that Government spokesmen should continue to claim that the average calories per head per day are in the neighbourhood of 2,900. It is fully explained in "Food Consumption Levels in the United States, Canada, and the United Kingdom" that these figures are derived from estimates of the amounts of food imported and produced in the country. The surveys of the Ministry of Food are made on representative families. They show that the average per head ranges from 2,300 to 2,400. Meals taken outside cannot raise the total to more than 2,650. The gap between the amounts that we can get and 2,900 is only too obvious.

The calculations of Bransby and Magee in the *British Medical Journal* of April 19 (p. 525) show how difficult it is to reach the standards of the League of Nations without excessive consumption of potatoes and exchange of points for B.U.s; and 2,900 per head per day, as an average for the whole population, is well above this standard. The figures given by J. C. Drummond (*Sth. med. J.*, 1946, **39**, 18) show that the average 2,273 calories consumed in 1944 amounted to just under 97% of requirements; very similar figures were found in similar surveys made before the war.

With the larger amounts now eaten outside the home the average in representative families must be well up to requirements. But that does not justify the claim that we are getting as much as 2,900 calories, nor does it mean that bread rationing does not make it difficult for some individuals to get enough calories.—I am, etc.,

London. JOHN MARRACK.

"Costoclavicular Compression"

SIR,—The paper by Prof. E. D. Telford and Mr. S. Mottershead (March 15, p. 325) raises again the question of the cause of disappearance of the radial pulse with certain positions of the arm in some cases of cervical rib. Are the effects on the main artery of the limb mechanical, due to its compression by the scalenes as suggested by J. B. Murphy in 1906 and Wingate Todd in 1911 or to its being squeezed between the clavicle and the rib as claimed by K. C. Eden in 1939 and supported by Wilfred Trotter? Are they due to the effect on sympathetic nerve fibres in the lowest trunk of the plexus produced by stretching over the rib as Wingate Todd postulated in 1913 and Telford and Stopford elaborated in 1930? Or are they, as Telford and Mottershead have now recently suggested, caused by the two heads of the median nerve gripping the artery when the arm is pulled downwards? Most surgeons who have had experience of these cases will probably agree with Telford and Mottershead that there is no one cause common to all cases. These writers have shown that forcible depression of the shoulder widens rather than narrows the costoclavicular interval, but lest it be thought that costoclavicular mechanical compression cannot therefore be a cause, we would refer to a recent case which came under our observation.

A boy aged 15 was seen in September, 1946, with a pulsating swelling above the inner end of the right clavicle which proved to be the subclavian artery rendered unduly prominent as it passed over the lower splayed out end of a complete cervical rib. There were no symptoms, and it was decided to leave well alone. The boy then began work on a machine which involved much use of his right arm and soon found that from time to time the arm began to ache. He was re-examined, and it was found that elevation of the shoulder obliterated the radial pulse. It was clearly demonstrated that this was due to the inner end of the clavicle moving upwards and slightly backwards towards the large cervical rib and compressing the artery at this level. At operation this was verified; there was an aneurysmal dilatation of the artery with some periarteritis at this site. Removal of the lower end of the rib freed the artery from compression by the moving clavicle.

Our object in referring to this case is to emphasize that costoclavicular compression of the subclavian artery may occur from upward and backward movement of the arm, and in certain cases such movement may be as effective in obliterating the main artery as may depression of the shoulder girdle in other cases.—We are, etc.,

LAMBERT ROGERS.
Cardiff. ARNOLD S. ALDIS.

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The Vole Bacillus

SIR,—Your timely leader (May 31, p. 770) on the recently published monograph on the "Murine Type of Tubercle Bacillus" (the vole acid-fast bacillus) by A. Q. Wells, the discoverer of the vole bacillus vaccine, merits the closest attention of all interested in the subject of active immunization against tuberculosis. Having last year paid a visit (sponsored by the Public Health Committee of the County Borough of East Ham, for whom I act as consultant physician for tuberculosis and diseases of the chest, and to whom I am greatly indebted) to the Scandinavian countries, I had the opportunity of studying for myself the work done there. The enthusiasm for B.C.G. in Norway, Sweden, and Denmark was widespread, but nothing I saw impressed me more than the work of Prof. Arvid Wallgren, of Stockholm, who has certainly been the pioneer of B.C.G. vaccination in Sweden, where he began his work at Gothenburg in 1926. His confidence in the value of B.C.G. persists, although it is pertinent to note, with reference to your leader, that he himself urged that it would be of greatest value if we

in this country were to use the vole vaccine. He gave me the impression that he believed it would eventually supersede B.C.G.

I think there is good evidence for the belief that both methods of inoculation (*a*) are harmless to humans, (*b*) increase resistance to tuberculosis, (*c*) are of value only in tuberculin-negative subjects. While it is true to say that B.C.G. has stood the test of time in many countries and its harmlessness has been established by its practical application on a large scale in many parts of the world, nevertheless there is good evidence that the vole bacillus has the following advantages over B.C.G.: (*a*) it is apparently a more potent immunizing agent; (*b*) its virulence is more stable (the varying virulence of B.C.G. in Norway, Denmark, and Sweden was significant and I was told on more than one occasion that some of the strains were losing their virulence); (*c*) there is reason to believe that tuberculin allergy following vaccination with it was greater and occurred earlier than that following B.C.G.

The time seems surely to have arrived when an authoritative body such as the Medical Research Council should institute a clinical trial, with control experiments for statistical purposes, of what they regard as the most effective method of tuberculosis vaccination. We may then be able to fill in the gaps which Continental and other workers, often through lack of opportunities, have omitted.

One final word: you say in your leader that the multiple puncture method is now considered the best method of inoculation with B.C.G. This is contrary to my own impressions, for wherever I went the intracutaneous method devised by Wallgren was, when correctly performed, regarded as the quickest, most valuable and practical, and it certainly afforded a more accurate measure of the dosage. Certainly the multiple puncture method with the Birkhaug-Rosenthal instrument seemed to meet with little favour in most of the clinics I visited.—I am, etc.,

London, W.1. PHILIP ELLMAN.

Nicotinic Acid Tolerance Test

SIR,—In their excellent paper (May 17, p. 672) on their nicotinamide saturation test Drs. P. Ellinger and S. W. Hardwick note that, in pellagrins, there is a markedly low response on the administration of nicotinamide but that this response can be increased, in pellagrins only, by the administration of methionine.

In therapeutic tests with nicotinic acid (the precursor of nicotinamide) in hepatitis cases it was noted that the usual vasodilatory response seems to be very much delayed. To investigate this a nicotinic acid tolerance test has been devised in which the patient or control takes 200–300 mg. nicotinic acid orally. If there is no response in 15 minutes, further 100 mg. is given every 15 minutes until the flushing of the face is reported. The work has not yet reached the stage of publication. However, the preliminary results noted on over 120 cases seem to endorse and also amplify Ellinger and Hardwick's findings.

The following conclusions seem to be justified so far:

(1) In "normal" subjects—that is, in patients and controls without evidence of hepatitis—there is a response on 200–300 mg., so much so that much higher values justify further investigations of the liver functions. Two unsuspected cases of chronic amoebiasis were so detected.

(2) The tolerance seems to be within normal limits in cases of sprue, congestive heart failure (only early cases could be tested), chronic mild cholecystitis, and in one case of liver secondaries.

(3) There is a marked, increased tolerance in cases of infective hepatitis (with or without jaundice), infective mononucleosis, homologous serum jaundice, and in subacute and chronic amoebiasis. The tolerance figures range between 500 and 1,200 mg. No cases of cirrhosis or pellagra were available for the test so far.

(4) The tolerance seems to be proportionate to the inflammation of the liver parenchyma, as judged by gravity of the condition of the patient and size and tenderness of the organ, but there seems to be no connexion between the deepness of the jaundice and the tolerance figure.

(5) Tested only in generalized inflammatory conditions, the tolerance seems to be more sensitive than the usual liver functions tests. The Takata-Ara reaction will be hardly positive (+) under a tolerance figure of 1,000 mg., and signs of a deranged carbohydrate metabolism are rare under a tolerance of 700 mg. The test is useful as a ward test, and is of some help in the diagnosis of obscure epigastric symptoms, especially in the exclusion of chronic amoebic hepatitis in soldiers returning from overseas. Like any ward test, or any test, it is probably not perfect and does not give more than a useful hint.

(6) The same tolerance values are obtained if the test is repeated eight-hourly. There is, however, a sudden decrease in the tolerance when recovery sets in, and this change can be quite dramatic—e.g., after 1–2 emetine injections.

Here a word of warning must be given. Massive doses of nicotinic acid (200 mg. t.d.s.) combined with high protein diet (shakes of household milk and dried eggs or soya flour) seem to have some therapeutic effect in cases of infective hepatitis. If higher doses are given, or the test is repeated daily, thiamine and riboflavine (6–8 mg. each) should also be given. In one case, myself, acute sprue symptoms were provoked by repeated nicotinic acid tests amounting to 1,800 mg. daily for 5 days. The symptoms quickly cleared up on massive doses of riboflavine.

In trying to interpret the mechanism of the increased nicotinic acid tolerance one is inclined to assume that the compound is either retained by the liver for the purpose of utilization in repair, or else its release by the liver is delayed by the lack (or increased utilization) of sulphur-containing amino-acids—Ellinger's and Hardwick's "methyl donors." Ellinger's and Hardwick's findings seem to support the latter assumption. They noted increased urinary output of nicotinamide methochloride on the exhibition of methionine in pellagrins, and no doubt the liver parenchyma suffers in that disease. On the other hand the fairly constant tolerance figures in the nicotinic acid test, and the constant urinary output of nicotinamide methochloride in the saturation test, do not confirm the assumption that the delay in passing the liver is caused by the lack of "donors" only; if this was the case one would expect daily increasing tolerance. Probably much more work will have to be done on the subject before the role of the liver (and that of the kidney) in the nicotinamide metabolism will be understood.—I am, etc.,

Colchester, Essex. A. ERDEI, Capt., R.A.M.C.

Physical Therapy of Mental Disorder

SIR,—A careful perusal of Dr. D. W. Winnicott's paper (May 17, p. 688) has led me to the conclusion that he intended it to be provocative rather than wholly serious. Dr. Winnicott's main objection to physical methods of treatment in psychiatry is that they are "unscientific," and he states, "Much of the objection to convulsion therapy would disappear if the mechanism by which results are obtained were understood." Would Dr. Winnicott, on similar grounds, say fifty years ago, have withheld digitalis in a case of cardiac oedema or quinine in a case of malaria, or would he to-day withhold malarial fever in a case of general paralysis?

The practising psychiatrist of to-day must answer the question: Shall I allow this melancholic patient to remain indefinitely in acute depression with all its mental suffering, not excluding risks of suicide or death from inanition due to refusal of food or from aspiration pneumonia due to tube-feeding, or shall I give him E.C.T. and restore him fit and well to his family in approximately six weeks? Or again, when faced by a case of acute delirium (manic or melancholic), shall the psychiatrist withhold E.C.T. and assure the relatives that death is almost inevitable, or shall he give E.C.T. with at least a three-to-one chance of success? Or again, should a psychiatrist subject an anxiety neurotic mother to months of psychological investigation, with the almost unbearable strain of her symptoms on her children and husband, not to speak of risks of suicide or infanticide, or should he not rather prefer to restore her to complete happiness and health with five or six convulsions?

A young man is suddenly stricken with an acute schizophrenic illness. The "scientific" psychiatrist must tell his father that nothing can be done and that almost inevitably the patient will rapidly drift into a condition of profound dementia. The "empirical" psychiatrist will immediately adopt treatment by insulin shock with at least a fair prospect of success. In cases selected for leucotomy (almost always mental hospital cases where both insulin shock and E.C.T. have failed, but where the residual mental capacity appears reasonably good) the choice is

again between the "scientific" method of doing nothing, thereby condemning the patient to lifelong incarceration, and the "empirical" method of leucotomy with its reasonable prospect of success.

Surely Dr. Winnicott cannot defend many of his statements as being either "accurate" or "scientific"—e.g., "convulsion therapy inevitably leads away from the psychological approach to a biochemical and a neurological one." This I submit is a highly controversial statement. My own experience is that all these physical methods require for their *correct* use accurate case histories, precise observation of their effects, and a sound psychological insight into the patient's mentality both before and after treatment. To delegate these treatments to junior medical officers in a sort of hit-or-miss fashion is of course *bad* psychiatry, which no reputable psychiatrist would defend.

Dr. Winnicott's greatest objection, however, appears to result from the implied threat such treatments have to his apparently beloved "analytical" psychology. This is too big a subject to dilate upon here, but I would ask Dr. Winnicott to consider whether he is not himself "unscientific" in assuming that the many amazing concepts of Freud (which, by the way, are outside the realm of scientific proof or disproof) are the only ones of value in the psychological approach? For example, modern child guidance, with its right insistence upon the emotional development of the early years and the importance of "security and affection," appears to derive nothing from Freudian theories but to be based upon the work of Adler (who rejected Freud's teachings) and of Cameron and others in England.

Lastly, I am of the opinion that such misconceptions as are evident in Dr. Winnicott's paper must to a great extent be placed at the door of psychiatrists themselves. When we as individuals become less "aloof" and "mysterious," and when we cordially invite all neighbouring practitioners and specialists to visit our hospitals at any time and to see their own or other patients undergoing such treatments, we shall hear very little of the "unconscious hate . . . that notoriously coloured the management of the insane up to recent times."—I am, etc.,

Armagh, N. Ireland. ROBERT THOMPSON.

Allergic Reaction to Penicillin

SIR,—I wish to report the following case history showing a marked allergic reaction to penicillin therapy which occurred in the maternity department of Dorking County Hospital.

CASE REPORT

A primipara aged 40 was admitted as an emergency with the history of early rupture of membranes 76 hours previously, uterine inertia, and commencing foetal distress, as evidenced by passage of meconium, though heart sounds were regular and of fairly good quality. Rectal examination showed the cervix half dilated, head in brim not fixed.

Lower segment caesarean section was performed under general anaesthesia shortly after admission. Much meconium in uterus. Baby shocked but responded well.

In view of the history and expected stormy convalescence penicillin therapy was instituted immediately after delivery. The preparation used was penicillin in oil, given intramuscularly with a preliminary dosage of 400,000 units followed by 200,000 units 12-hourly. On the second day after delivery paralytic ileus developed. Treatment consisted of morphine, half-hourly duodenal aspiration through a Ryle's tube, acetylcholine, intravenous drip, radiant heat to abdomen, and turpentine enemata. Response to treatment occurred within 48 hours. On account of a sustained low-grade pyrexia during the puerperium due to a mild genital-tract infection, penicillin in oil in the above dosage was continued for 16 days, the total dosage being 6,400,000 units.

On the day following cessation of penicillin therapy a severe urticarial reaction occurred. It affected the face and limbs and later involved the trunk also. It was unaccompanied by fever or tachycardia, but caused such severe pruritus as to keep the patient in the next bed awake by the vigour of the scratching. Adrenaline, calcium gluconate, and local sedatives gave some relief, but fresh patches kept appearing for a total duration of 6 days, and then cleared up completely. Mother and baby were sent to the hospital convalescent home and discharged well and thriving 5 weeks following delivery.

I would add that this patient had not previously had any penicillin therapy.—I am, etc.,

Dorking, Surrey. J. C. CUTHBERT.

"Benadryl" Treatment of Penicillin Allergy

SIR,—Accounts of the allergic response to penicillin have appeared recently in the journals. These reactions have been both to intramuscular and local applications of the drug. The commonest reaction is urticaria alone, but occasionally a full anaphylactoid response is seen, with fever, hydrarthrosis, enlargement of the lymph glands, and bronchial spasm. This often occurs 10 to 14 days after the commencement of penicillin treatment and resembles serum sickness. The intense pruritus which accompanies the urticaria is usually the most troublesome feature, causing scratching and inevitable insomnia.

A patient of mine (G. A.), a girl aged 19 years, developed a paronychia, and I first saw her with pus under the left thumbnail and slight lymphangitis. The nail was removed, penicillin in oil, 125,000 units in 1 ml., was given daily for three days, and the thumb healed uneventfully.

Ten days after the commencement of penicillin she developed an urticarial rash on the back and shoulders; this was associated with intense itching. She had no family or personal history of allergy, and as far as could be ascertained she had not been exposed to any other allergen. The following day, after a sleepless night, she had a temperature of 100° F. (37.8° C.), there was generalized urticaria, which was most marked about the face, and she was also dyspnoeic. On examination the axillary and inguinal glands were enlarged; on auscultation of the chest there was a marked expiratory wheeze; there was no evidence of hydrarthrosis. Calcium lactate 30 gr. (2 g.) and phenobarbitone 1 gr. (65 mg.) were given six-hourly, but the following day the symptoms had increased.

Having used "benadryl" (dimethyl aminoethyl benzhydryl ether hydrochloride) successfully in angioneurotic oedema, I commenced treatment with 100 mg. (two capsules) at once and a further 50 mg. six-hourly. The response was most dramatic; within an hour all urticaria had disappeared, the itching and dyspnoea ceased, and the patient was symptom-free. There has been no relapse.

While further cases will have to be described, "benadryl" appears to be the drug of choice in the long-term treatment of anaphylactoid phenomena; "benadryl" being perhaps to adrenaline what trinitrin is to amyl nitrite.—I am, etc.,

Liverpool. GEOFFREY DEAN.

Pruritus Ani as an Allergic Condition

SIR,—The association of pruritus ani with allergy is hardly investigated. The unsatisfactory results of treatment in many cases, however, make it desirable to get better information on aetiological factors in these conditions. A case of a man who came into my observation first on July 8, 1946, illustrates this well.

The patient was 66 years old. There was a family history of allergy; the son suffered from asthma, a daughter had attacks of urticaria. The patient has had sinus and antrum operations for "sinus infections" from 1898 on, the last time in 1929. In 1943 piles were operated and "proctocaine" injected. The skin proved to be allergic to skin disinfectants. All these years the patient suffered from severe irritation of the anal region which "made life miserable" to him. Three weeks before he saw me first he again had piles removed by operation. A slight attack of pruritus had occurred 40 years earlier. He has also suffered from urticaria and eczema on his head; otherwise he has been a healthy man all his life.

On examination I found a scar on his right forehead due to the operation on his right frontal sinus. The anal region was in an irritated state, excoriation, thickening, and oedema of the skin were marked, and there were cracks and slight fissures in the perianal region. The middle lobe of the prostate gland was moderately enlarged. A differential blood count showed a hypereosinophilia of 6%; basophils, 4%; polymorphs, 67%; lymphocytes, 23%. Skin tests gave positive results to moulds, cheese, and other food proteins. His condition was worse when constipated.

From his faeces *Bact. coli* and *Staph. aureus* were cultured and used for an autogenous vaccine together with a desensitizing mixture of the positive allergens. Apart from that the patient was given vitamin E and testosterone tablets. Local treatment was discontinued. His condition started to improve after three weeks, and the anal findings showed a normal picture and normal skin conditions with no irritation from about six weeks after the treatment. The patient was last re-examined on May 8 and was found absolutely well and the anal region normal. As repetition

of his blood count elsewhere had given no signs of hypereosinophilia, I had it re-examined in October, when a "hypereosinophil phase" of 11% was found.

F. R. Rugeley published a paper on allergic causes of pruritus ani recently (*Annals of Allergy*, 1946, **4**, 374 and 396) and reported about 14 cases of pruritus ani in which a connexion with allergic causes was revealed and rapid improvement achieved by treatment on these lines, whereas the conventional treatment, tried before, had proved to be unsuccessful. He holds the opinion that excoriations, oedema of the skin, thickening, or exudation vary in intensity, and that papillitis, fissures, and other changes thought to be causative factors are often secondary and not primary changes. He recommends strongly that allergic causes of pruritus ani should be investigated before radical procedures are suggested, such as surgical interference, *x*-ray treatment, local injections, divisions of nerves, or tattooing of the anal margins with anaesthetics.—I am, etc.,

London, W.1. E. M. FRAENKEL.

Congenital Hepatic-duct Malformation

SIR,—Length of survival may warrant recording the following case. A female child 10 months old had been jaundiced since her normal birth. Weight records were: 7 lb. (3.1 kg.) at birth, 9 lb. (4 kg.) at 6 months, 12 lb. (5.4 kg.) at 10 months. Absence of breast milk had resulted in cows' milk feedings. Three older children were healthy.

The child was lively and profoundly jaundiced. Her spleen extended three fingerbreadths below the ribs, and the nodular liver extended below the umbilicus. The urine was dark, contained bile, and the stools were light. Her haemoglobin was 65%, red blood count 3,000,000, white blood count 5,100, and the Wassermann was negative in mother and child.

On Dec. 12, 1946, the abdomen was opened in the hope of finding a gall-bladder for anastomosis. A small amount of bile-stained fluid appeared. The enlarged liver was hobnailed and had rounded borders. No gall-bladder and no extrahepatic ducts were present. The spleen surface was granular. Prof. J. H. Fisher examined a biopsy specimen and reported "obstructive biliary cirrhosis." Post-operative condition was good until Dec. 18, when hepatic failure developed. On Dec. 23 the wound disrupted, with bowel prolapse. The child was unconscious, and the wound was closed with through-and-through silkworm sutures without anaesthesia. The child died eight hours later, having lived ten months and eight days.—I am, etc.,

Arkansas, U.S.A. FRANK RIGGALL.

De Morgan's Spots

SIR,—I was much interested to read the paper by Capt. A. R. Murison, Lieut. J. W. Sutherland, and Flying Officer A. M. Williamson on De Morgan's spots (May 10, p. 634). Their observations on a very large number of patients are a valuable addition to the literature on the subject and incidentally a confirmation of earlier findings by other authors. I would however like to point out that the literature on the "ruby spots" is by no means "extremely meagre" and the erroneous impression that "there is an entire absence of precise information on their significance" is obviously due to some confusion in the terminology.

"De Morgan's spots" is an obsolete term almost wholly unknown outside this country and rarely met with even in the British literature. The more or less generally accepted name for this type of telangiectatic skin lesion is angioma senile. This term is generally used in the international literature, but also by English authors (e.g., Colcott Fox, *Brit. J. Derm.*, 1908, **20**, 145) and in English textbooks of dermatology (McLeod, Sequeira). Less common synonyms are angioma eruptivum, angioma tuberosum, angioma nodulare cutis, senile ectasia, *perles sanguines*. The pathology of angioma senile, including its relationship to malignant disease, has been the subject of comprehensive investigations, mainly by French and German authors. In my monograph on "Haemangiomata and Telangiectasias of the Skin" (Jadassohn, J., *Handbuch der Haut- und Geschlechtskrankheiten*, Vol. 12, Pt. 2, Berlin, Julius Springer, 1932) I dealt exhaustively with angioma senile (pp. 379, 398, 404). May I be allowed to quote just a few passages from what I said then.

"These tiny multiple angiomata are of interest also, because, under the name of Leser-Trélat's symptom, their presence has occasionally been regarded as indicative of internal carcinoma. Trélat, de Boucaud, and subsequently Leser believed that their incidence was higher in patients with internal carcinoma. These authors" (not De Morgan) "suggested therefore that senile angiomata had a certain diagnostic significance, especially when present in early adult life and in great number. This concept has, however, been disproved by Gebele, Raff, Reitzenstein, Rosenbaum, A. Symmers, and Wolff." Summing up I said: "There is little evidence to support the view that they [i.e., senile angiomata] are of pathognomonic significance in the diagnosis of malignant tumours."

As for the histological structure of angioma senile, it seems not quite correct to say that the lesions have the character of simple haemangioma. More aptly they may be described as telangiectasias, because—I am quoting again from the above monograph—"there is no evidence of a formation of new blood vessels. Development and enlargement of the minute tumours are entirely due to dilatation of (pre-existent) capillaries or small veins. In addition, pathological changes of the cutaneous tissue, such as destruction of the elastic fibres and degeneration of the collagen, are often, though not in all specimens, found to be present in the neighbourhood of the dilated vessels."—I am, etc.,

Manchester. L. WERTHEIM.

Prognosis of Primary Pleural Effusions

SIR,—I read with great interest Dr. Brian C. Thompson's article (April 12, p. 487) on the prognosis of primary pleural effusions. I would like to suggest a fourth factor which seems of equal importance to the three that he describes as being necessary in the correct assessment of the development of tuberculosis over a period of five years. This is the nature and duration of the initial treatment of the pleural effusion. Figures quoted by Coope suggest that a period of several months' treatment under sanatorium regime when the pleural effusion is first manifested greatly reduces the incidence of tuberculosis subsequently. He states that, in cases thus treated, there is less than a 10% incidence of tuberculosis, whereas in untreated cases figures up to 60% are quoted.

It would be very interesting to learn whether Dr. Thompson's cases underwent any sanatorium treatment when the pleurisy with effusion first developed, and, if so, how this group compared with those who had no initial treatment with regard to the development of tuberculosis subsequently.—I am, etc.,

London, N.6. J. D. L. REINHOLD.

REFERENCE

Coope, Robert (1945). *Diseases of the Chest*, Edinburgh.

Acute Non-specific Diarrhoea and Dysentery

SIR,—I was surprised to read Dr. G. R. Kershaw's article (May 24, p. 717) because I had not heard such views expressed by anyone of the present generation. I can only say that some of us slept for two months in a troopship to the Far East with at most a pair of short pants for cover, with a louvre directed at our naked forms without ill-effect. In India many of my acquaintance slept almost nude under fans through very hot weather and they reputedly were less frequently troubled with epidemic diarrhoea than others who slept in a more temperate way.

Any epidemics of local "tummy rot" could well be ascribed to the lack of hygiene in Indian cooks and cookhouses. In fact one was persuaded that the less covering to which one could accustom one's body, the more resistance one achieved to local minor diseases—a view which received the approval of Army authorities.—I am, etc.,

Bournemouth. G. DALLEY.

SIR,—I read Dr. G. R. Kershaw's article on acute non-specific diarrhoea (May 24, p. 717) with interest. From my own experience I am convinced that chilling of the abdomen is a common cause not only of acute diarrhoea but of chronic loose motions. During six years in South China I was able to study the effects of chilling on the abdomen, often after violent

exertion such as digging or mowing a rough lawn with an old lawn-mower. The abdominal wall felt icy to the touch, and after such exertion I would have an acute attack as described. It could not be put down to icy water as we had no refrigerator and usually the water remained tepid after boiling. Stools were negative.

Apart from these acute attacks I normally had three or four loose stools daily during the hot weather. I eventually found that a "belly pad" consisting of about a square foot of woollen vest, lined on the inside with an old piece of "lock-knit" cotton material, tied round the neck and waist, was almost specific. The Chinese (Hakka) people dress their small children in a "belly pad" in the hot weather.—I am, etc.,

Leyburn, Yorks. ALAN A. CROOK.

Acid Drinks and Sulphonamide Therapy

SIR,—Dr. Petronella Potter (May 10, p. 654) raises a theoretical point on the effect of fruit-juice drinks on the urinary *p*H, but I don't think she can have taken the precaution of testing it in practice. The same point occurred to me when working with heavy doses of sulphadiazine in a country whose climate required a large fluid intake to maintain adequate urinary output. The intake was largely of fresh orange- and lemon-juice drinks. To test their effect on urinary *p*H, plain water was substituted for them in one group of patients. There was no significant difference in the urinary *p*H of the two groups as tested by universal indicator. There therefore seemed no practical justification for withholding the fruit drinks—a welcome conclusion, since the patients' general condition suffered on the water regime, which they did not enjoy taking and would avoid if possible.

As citric and tartaric acids and their salts are organic and liable to catabolism in the body, even Dr. Potter's theoretical arguments are in doubt.—I am, etc.,

Oxford. C. W. M. WHITTY.

Post-operative Pulmonary Atelectasis

SIR,—Dr. M. H. Armstrong Davison (May 17, p. 695) says that I am tilting at illusory windmills in emphasizing the importance of the routine use of simple postural coughing in the avoidance and treatment of post-operative atelectasis. I was not trying to instruct Dr. Davison himself; I think that would indeed be tilting at an illusory windmill because clearly we are in general agreement; but I am certain that we can all do a most important service by emphasizing the principles of simple prophylaxis and treatment which are not yet sufficiently known.

Bronchoscopic aspiration has many advantages in proper circumstances. The object of my letter was to protest against the fostering of the belief that when confronted with a post-operative atelectasis one should at once perform or ask for a bronchoscopy. It is true that anaesthetists should be able to perform bronchoscopic aspiration, but it is going to be a long time before there are enough anaesthetists up and down the country skilled enough to do so. In the meantime post-operative sputum retention is a very common occurrence in all hospitals, great and small. Its ill-effects can be avoided or overcome in the majority of cases by a simple drill available at once in every one. I find that there is very widespread ignorance of this fact and I think that all teachers have a duty to emphasize to house officers and nurses that an efficient remedy lies in their own powers and should be used. Bronchoscopic aspiration should be reserved for the small proportion of cases that fail to respond at once.—I am, etc.,

London, W.1. R. C. BROCK.

Use of Drugs in Asphyxia

SIR,—For the correct use of drugs in asphyxia it is at least desirable to know something of the physiology of respiration. Prof. Barcroft's recent researches into foetal respiration have shown us a whole new mechanism of respiration which is hardly hinted at in the normal physiology textbooks. They serve to emphasize the essentially reflex nature of respiration. So far as the brain is concerned normal ordered respiration involves a number of centres at various levels in and above the medulla—asphyxia, "blackouts" (in flying, etc.)—these centre from above downwards; and in cases where the onset of respiration is postponed, the possibilities lie in the establishment of a reflex gasp involving some cutaneous or other peripheral stimuli acting at the lowest level—i.e., low down in the medulla. When once respiration is properly established and the brain fully oxygenated, the respiration is thenceforward regulated by the well-known mechanism described by physiologists. Incidentally Prof. Barcroft shows that in the foetal sheep the earliest respiratory movements are elicited by touching the snout area alone, and this is, of course, the area on which the lamb normally drops when it is born, thus providing the maximum cutaneous stimulus to the most sensitive area.

In view of Barcroft's researches, the most effective way to combat asphyxia neonatorum would seem to be to apply a cutaneous stimulus—as in the traditional slapping or by directing a vigorous jet of oxygen on to the nose or into the mouth—or, if that failed, to give some drug which would enhance the sensitiveness of the nervous system so that it will respond to stimuli to which it otherwise would not—in other words, to give something in the nature of a convulsant. This justifies the old-fashioned recommendation of giving as much as 1/400 gr. (0.16 mg.) of strychnine (now, I think, never used, though I refer to this again later) and the more modern use, which I have described several times, of cardiazol-ephedrine. Cardiazol is a well-known convulsant, and in cases *in extremis* I have used it successfully in doses which, in a fully oxygenated baby, are certainly convulsant. (The largest dose I have used, and with complete success, was for a baby who failed to make any response for 15 minutes, but finally did so after receiving 0.5 ml. intramuscularly and then two doses of 0.5 ml. intracardially.)

This theoretical discussion, with its slight experimental demonstration, clears the way for a consideration of the possible bearing of Barcroft's work on the drug treatment of asphyxia in later life. We all know that asphyxia or high dosage of carbon dioxide depresses the sensitivity of the respiratory centre in the medulla, so that finally respiration ceases whatever the concentration of carbon dioxide may become. The question then becomes: Does the original basal or protopathic mechanism of respiration—i.e., responding to cutaneous stimuli instead of to asphyxia—still persist, or is it also abolished with the more normal pattern? I have already mentioned that Barcroft found that at a late stage in foetal life the cutaneous response persists in the foetus when the oxygen tension in the cerebral circulation is almost inconceivably low—i.e., when the response to asphyxia is practically abolished. There are various clinical observations which suggest that in adult life an early developed mechanism may be capable of functioning even though the normal later one is not—e.g., in insensibility due to cerebral haemorrhage, etc., the involuntary basal functioning of certain organs (bladder, etc.) shows itself even though it may have been suppressed in man for more than half a century, while in some types of heart disease the ventricle may reassume its own fundamental rhythm even though for 70 years or more it has followed quite a different one impressed by the auricle. If this is so, the logical way to treat a case of asphyxia would be to try to utilize the original but dormant cutaneous method of stimulation until the re-oxygenated brain reasserted its normal method of control.

I have described in the *B.M.J.* and repeated at the A.M.C. the case of a boy who was immersed in the river for about 15 minutes and who was responding hardly, if at all, to efficient artificial respiration. I injected 1.0 ml. of cardiazol-ephedrine and 1/30 gr. (2.1 mg.) strychnine sulphate, turned him over and gave him a few vigorous slaps, with the result that within a minute he was crying lustily and continued to do so for an hour or so. He finally made a complete recovery in spite of a raging pneumonia. This is only one case, but it does suggest that the injection of convulsants in cases of asphyxia may prove a most valuable and rapid method of treatment. I stress the importance of rapidity, for though cases have recovered after prolonged artificial respiration, all the evidence we have shows that the brain is extremely liable to damage from complete lack of oxygen, and if we can reduce the period of asphyxia we can—if it is not tautology to say so—hope for a much greater percentage of complete recoveries.

It is worth mentioning in this connexion that our fathers constantly used injections of strychnine as a respiratory stimulant, but this practice has fallen into desuetude since the physiologists proved that in the laboratory strychnine has no such

stimulating effect. Barcroft's work suggests that it may well be of the greatest value where the normal mechanism is failing and the organism possibly having to rely on a more primitive one. If this is so, it is but one more example of the clinical acumen of our forefathers which has been discredited not because it was wrong but because its mode of action was misunderstood, or because the conditions of the physiological experiment were such as to prevent its giving a correct answer. "The proper study of mankind is man," and though cats and dogs are useful, they can never replace the acid test of human experiment. I suggest that those with the requisite opportunities might try the application of Barcroft's work in the way I have indicated.—I am, etc.,

Winsford, Cheshire W. N. LEAK.

Artificial Insemination

SIR,—Dr. Eustace Chesser's letter (May 24, p. 738) is a valuable contribution towards a correct assessment of the problem of heterogeneous insemination. He admits having dealt with cases of homologous and heterogeneous insemination and now condemns the latter.

Recently in Newcastle we were addressed on the legal problems of this matter, which was dealt with from every aspect. We were informed that the donor should be a married man with one or two children and of proved health. I made, *inter alia*, the following remarks: "Artificial insemination of cattle is justifiable, as it involves no ethical problem. The majority of the males are castrated and it is only reasonable for commercial purposes that the remainder may distribute their favours, as after all we eat the progeny. I have never done homologous insemination, but I would consider it ethically correct to aid fertilization if, for example, coitus was impossible owing to vaginismus or some other abnormality. Heterogeneous insemination brings in a special factor which revolts one. What type of individual can the donor be who hawks his seminal fluid round the countryside at so much per c.c.?"

Judging by the way a large mixed audience received my remarks, from personal talks, letters, and phone messages, I am sure that the bulk of them felt as I did. Dr. Chesser's letter strikes me as being written by one with deep conviction.—I am, etc.,

Newcastle-upon-Tyne. FARQUHAR MURRAY.

Infant Deaths

SIR,—With reference to Dr. S. Waddy's letter on infant deaths (May 24, p. 737), in which he draws attention to the danger of too great a weight of blankets on an infant's cot, a recent necropsy which I performed may be of interest.

A healthy baby aged four weeks was found "panting for breath" one morning in its cot and died before the arrival of a doctor. A necropsy revealed all the signs of asphyxia in an otherwise normal infant. At the subsequent inquest the mother was asked about the clothing and bedclothes of the child. The disclosure that on the warmest night of this year the unfortunate babe was bedecked in (1) a woollen vest, (2) a woollen coat, (3) a woollen night-dress, and (4) woollen bootees, and had as covering four woollen blankets and an eiderdown—the blankets being "well tucked in"—left no doubt as to the cause of the asphyxia. Comment is unnecessary.—I am, etc.,

Northampton. RUBY O. STERN.

Keeping Mother and Baby Together

SIR,—We have read with much interest and pleasure the paper by Prof. J. C. Spence on "The Care of Children in Hospital" (Jan. 25, p. 125) and note that he approves of the method we have been using as much as possible for the last 20 years and exclusively for the past 6 years in a small special hospital—namely, encouraging every mother to nurse her own baby (*vide B.M.J.*, Feb. 3, 1945, p. 159, and Sept. 7, 1946, p. 337). Given the right conditions the system works well and gives excellent results. Babies want constant attention and "mothering"; to break the bond between mother and baby is to introduce an unnecessary hurdle into treatment which may spell the difference between success and failure. We have noted also the objections of Drs. W. E. Crosbie and J. Lorber (Feb. 15, p. 266) to the mother-and-baby system of nursing.

We in our work are of course frequently up against the same trouble of a mother finding it difficult to leave her home and family. But here is where grandma or auntie will nearly always step into the breach; someone can invariably be found to look after the home. The only insuperable difficulty is when the mother herself is ill and possibly in hospital. In such a case we get a "foster mother," if possible again an aunt or grandmother or other relative, and it is astonishing how soon the foster mother and baby get fond of each other; and it is this bond of fondness which is so valuable to the baby patient in its time of trial.

Again we would emphasize it is of no use putting a mother with her baby in a ward. They must have a little room to themselves which is their own private room, and under these conditions the classical description by Prof. Spence of a children's ward commencing "The room is vast" is never applicable. The simple fact is that there are not enough nurses and not enough time for baby patients to be given all the attention they require.—We are, etc.,

H. P. PICKERILL.
Wellington, N.Z. CECILY PICKERILL.

Health of Children Attending Day Nurseries

SIR,—The observations made by Dr. Margaret E. McLaughlin as stated in her preamble (May 3, p. 591) cannot lead to definite conclusions, owing to the impossibility of assessing the relative effects of economic and environmental factors on such a survey, unless the obvious course is taken of studying these vital social factors simultaneously with the purely pathological one attempted. Out of many points which require further investigation that reading "The inference that there were no significant physical differences at the start of nursery life between day-nursery children and those living at home may reasonably be assumed to apply also to the present survey" requires more evidence than that afforded by examinations by a variety of observers on 290 children "scattered all over the country" and then statistically compared to the 4,297 children in the major groups studied.

From my experience of the basis of admission to day nurseries priority is invariably reserved for mothers forced to work; the reasons leading to this necessity operate before and after pregnancy; therefore their level of nutrition and take-up of extra rations and vitamin supplements (owing to lack of free time and financial stringency) is lower than that of the normal home-living mother. One would not expect the babies born to this group to have the optimum physique and resistance obtainable. Day nursery care would have to overcome this initial inferiority before any reasonable comparison could be made between them and other groups. If the statement I refer to can be scientifically proved I suggest the whole of our nutrition policy for expectant mothers must be based on a fallacy.

This report emphasizes the vital importance of good staffing and management and should reinforce the struggle to raise the standard of training in child welfare to a national university level, as advocated by the report issued in 1946 by the National Society of Children's Nurseries. These "extensions of the home" must and can be made safe in order that they may assist the solution of a multitude of acute social problems—to quote a few, the work of the Marriage Guidance Council—to enable the mother to meet the psychological needs of toddler, schoolchild, and adolescent, with the obvious bearing on the problems of juvenile delinquency, promiscuity, and venereal disease; and to enable the mother to obtain the maximum benefit from the provision of the National Health Service for treatment for herself and young family. For all of these I welcome the suggestion that the attendance of children "for two or three half days a week is a question worthy of investigation."—I am, etc.,

Farnham, Surrey. NORA M. JOHNS.

Food Poisoning

SIR,—I was much interested to read the paper in your number of April 5 (p. 442) about an epidemic of food poisoning traced to staphylococcal contamination of sandwiches. It recalled to me a case that was *clinically* typical Asiatic cholera that occurred in a country practice in the Orange Free State in the year 1922. I published it in the (since defunct) *South African*

Medical Record, 1922, **20**, 209, and asked if any similar cases had been observed in other places, there being an epidemic of "paracholera" reported about that time. Nobody took any notice of my short paper and I was disappointed not to hear of any similar cases.

As I said, the case was typically Asiatic cholera, with very violent vomiting, diarrhoea, cramps, and collapse, with rice-water stools, but *bacteriologically* no organism was found but pure streptococcus. I wonder if such symptoms have often been associated with pure streptococcal infection. It is very interesting to note the great difference from the clinical manifestations of staphylococcal infection as reported in the paper recently published.—I am, etc.,

Durban. C. LUNDIE.

Undernutrition

SIR,—The letter from Dr. Martin Herford (May 17, p. 696) is extremely valuable and demonstrates the real existence of subclinical undernutrition, which is not by any means fully appreciated.

For years before this latest of wars I fed my stomach, as both it and I thought, satisfactorily, and we both thrived. Then came the war—meals now only three courses! We—my stomach and I—assimilated these new conditions protestingly and gradually and now after all these years we have adjusted ourselves. But has my body benefited or worsened under the difference? Do I suffer from lack of calories and vitamins, or am I benefited from a compulsory deprivation of a surplus of purins and fats? Shades of Nat Gubbins dialling "Tum"! I only know that I get more indigestion than I used to do and that I tire more easily. Therefore I believe that my diet as a hard-working man is inadequate and that the old scale of large and more varied meals suited me best, though I doubt if Tum would now digest them—such is habit and the adaptation of the human body. Saliva flows at the thought of a pre-war meal; but does carcinoma lurk in the background?—I am, etc.,

London, S.W.1. DESMOND MACMANUS.

Planning for Health

SIR,—I ask for space for a matter of importance in the world of positive health and to air a flouted first principle in the pursuit of planning. In 1932 I selected a camping ground for boys at Snettisham Beach, Norfolk. It had much to recommend it. It was far from houses, yet within a mile of a station; it had a good water supply, was within the "dry belt," was the nearest seaside place to some of the East Midland towns; the bathing and sailing were fairly safe, and at low tide there were miles of sands, a gloriously healthy arena for games, cockling, and other noble sports. For seven years many hundreds of boys from all over the country enjoyed free camping there and during the war half the camp, about nine acres, was taken over by some 800 Americans.

After the war the camp was handed over to the Workers' Travel Association, a non-profit-making concern with an excellent record, which provides holidays for workers. With increasing holidays with pay this body has an extra job of work to do and it was thought that they would utilize this camp to the best advantage. When, however, they applied to the local planning committee for permission to raise the necessary buildings, our modest ones having been levelled by the Allies, they met with a refusal:

> "The grounds for my committee's decision are to prevent danger or injury to health arising and further detriment to the neighbourhood, in view of the low-lying nature of the land which is liable to flood."

If this ill-conditioned sentence means anything it means that the land is liable to flood and that the sewage from the camp might spread round and infect the neighbours. But there are none, and in any case the slope of drainage from the camp is down to marsh land where there is no house for miles. Moreover the camp land has never been flooded within living memory, nor could it be unless eight miles of marsh land lying 20 feet below were flooded first. That sentence was written in January of this year; then came the floods over much of the country and county, but this land was not flooded nor was the marsh land below.

In these circumstances I wrote and asked the local planning committee the names of their health experts, these men who were so demonstrably wrong and who in my view used the excuse of health to prevent workers gaining health. The reply was: ". . . I am not, at the present time, in a position to supply you with the information you request or to offer a further opinion on the matter."

Now this may be a local affair, but I suggest that a principle of first importance is involved: planners and experts must not be anonymous, otherwise we have no guarantee of their ability or that they are not stupid or self-interested or both.—I am, etc.,

Rye, Sussex. C. G. LEAROYD.

Entry to Dartmouth

SIR,—I had hoped that someone more learned than I would have raised this matter of the change of the age of entrance to Dartmouth from 13½ to 16. I have had considerable experience of schoolboys of all ages and classes. It seems physiologically unsound to transfer a boy to the strict discipline of the R.N.C. in the middle of adolescence. The present method whereby a boy enters the Navy at the onset of adolescence or at the end, or at least when it is stabilized, is sound, and the results are admittedly good, very good. At present a number of boys are taken from elementary schools at the lower age, with, I understand, satisfactory results. It is hard to see what advantage is to be gained by removing a boy at this most unstable period into a strange milieu.—I am, etc.,

Clifton, Bristol. R. G. COOKSON.

Tobacco

SIR,—In your recent leading article (April 26, p. 570) on this burning (!) topic you twice referred to tobacco smoking as a habit. This is a common but, in my view, a serious error. Tobacco smoking is not a habit but a drug addiction, a disease. Untruthfulness is an outstanding symptom of the drug addictions. It is well recognized in morphinism and cocainism, but it is not generally realized that, on matters concerning tobacco, tobacco smokers are exceedingly untruthful. The untruth that smoking is a habit is perhaps the most important. Other fundamental untruths circulated by smokers are that smoking is a vice and tobacco a luxury, and I would be grateful if you would allow me space in which to "nail" them.

The essence of a habit is that it is acquired by repetition, and references to tobacco smoking as a habit carry the implication that the repetitive act of administering tobacco smoke—puffing—is the essence of tobacco smoking, not intoxication with nicotine, carbon monoxide, and pyridine bases—the main constituents of tobacco smoke.[1] Even in bringing about the administration of tobacco smoke habit is much less important than craving for tobacco, as anyone cured of tobacco addiction knows. Is opium smoking also a habit, and intoxication with the alkaloids of opium of secondary importance? Clearly the essence of tobacco smoking is the tobacco and not the smoking. Satisfaction can be obtained from chewing it, from snuff taking, and from the administration of nicotine.[2] The majority of diseases are intoxications of one kind or another and the intermittent intoxication induced by tobacco smoking must surely be accounted a disease. The terms "drug habit" and "smoking habit" ought also, in my view, to be forsworn.

The untruth that smoking is a vice is somewhat nearer the truth. Vice or moral deterioration is an essential symptom of drug addiction. It is merely, however, a symptom (secondary to craving); the disease is drug addiction. It is revealed, in the case of tobacco smoking, in frequent non-observance and sometimes obliteration of non-smoking notices, in abuse of those who ask that these be observed, in untruthfulness about tobacco, and in the frequent failure of smokers to honour their obligations. An example of this, much to the point, is the failure of our tobacco-addicted profession to prevent this serious disease, which is no more difficult to prevent than addiction to opium. Tobacco is treated in this country not as a toxic drug of addiction, which it is, but as a luxury, which it is not. It is not included under the provisions of the Dangerous Drugs Act; it is sold to the public in almost unlimited quantities, and its

high taxation leaves no room for any doubt about the Government's view, a view for which we must accept the main responsibility. To the craving addict his drug *seems* a luxury; to individuals who do not crave it has no value, unless it be a medicinal value when given to non-addicts.

Innumerable variations of these and of other untruths about tobacco circulate freely, but the truth about tobacco is generally taboo. Even this last budget has failed to raise this powerful drug taboo to any important extent. Untruths about tobacco proceed from smokers' delusions. The delusions of tobacco smokers are systematized, and localized to matters concerning their drug. Outside their delusional system smokers are perfectly rational. Their delusions are, however, fixed by craving for tobacco, and undeception is therefore exceedingly difficult. "Drug addiction," according to Glover, "borders on a line between psychoneurosis and psychosis."[3] It seems to me, however, that it is a form of toxic psychosis. What better evidence of national insanity than the spending of one-third of our American loan on bringing into this country hundreds of tons of toxic and therapeutically useless drug?—I am, etc.,

Wallasey. LENNOX JOHNSTON.

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1 Dixon, W. E. (1927). *British Medical Journal*, **2**, 719.
2 Johnston, L. M. (1942). *Lancet*, **2**, 742.
3 *British Encyclopaedia of Medical Practice* (1938). Vol. 10, p. 221, London.

N.H.S. Act and Split Services

SIR,—Recent views of experienced tuberculosis officers of a large county and borough—Dr. G. Lissant Cox and Dr. H. Vallow (April 26, p. 577, and May 17, p. 693)—confirm objectionable features of split services and dual control, which I, too, drew attention to, not only on tuberculosis but also in relation to mental health, maternity and child welfare, and sick visiting. Such control will not only affect officials but also existing multifarious committees.

"Tuberculosis-care Work," published (*Tubercle*, 1920, **1**, 317) as a then tuberculosis officer, largely helped to model in Leeds a committee for the care and employment of tuberculous subjects (later largely financed by the city council); without it no tuberculosis scheme can be adequately controlled. Since 1930, as the only medical member of the Leeds city council and chairman or deputy of its mental health committee dealing with defectives, one is aware of the usefulness of the Mental Care Committee for home supervision and training of defectives. Our experience in Leeds of a separate mental health committee has proved that the defective problem has been more efficiently controlled than it would have been by a subcommittee of a health committee or of a large joint board. Again, as a former chairman of a maternity and child welfare health subcommittee I appreciate the activities of local welfare centres and nurseries for the efficiency of that service.

The central and regional administrative structure is undoubtedly a compromise to placate the conflicting interests of local authorities, voluntary hospitals, and the profession. Unless existing local machinery is more utilized and unified, day-to-day management will be ineffective. It will be almost impossible for the proposed small set-up to cope with routine work of vast areas and added population.

The West Riding Mental Hospital Board (of which I have long been a lone medical member) administers lunacy for the county and for five large and five small boroughs with 54 elected members and four large hospitals. We have eight large and twenty routine committees two or three half-days fortnightly and manned by half the board for the month. Patients look up to their local representatives with requests on visiting and discharging days; also municipal hospitals, tuberculosis, maternity work, and other institutions take several half-days for established routine. I am sure it will be impossible for many medical members to spare this time.

Active participation by the profession on policy, planning, and regional staffing is undoubtedly necessary. But for local management and routine the Minister may be well advised by regulations to continue to use existing machinery of large authorities whose usefulness has been proved by including a quota of the regional members and their executive staff.—I am, etc.,

Leeds. Z. P. FERNANDEZ.

POINTS FROM LETTERS

Volvulus of Small Intestine in Hernia Sac

Dr. W. E. HADDEN (Bansang Hospital, The Gambia) writes: M. M., an African male of 35 years, was admitted to Bansang Hospital with the diagnosis of strangulated right inguinal hernia. Herniotomy had been performed here three years previously on the left side. The patient stated that the right hernia had appeared very soon after the operation on the left side. The day before admission he had felt pain in the right hernia at 2 p.m. while cutting grass with a bill-hook, and had gone home. Next morning the pain became worse and he appeared at hospital at 12.30 p.m. He had not vomited. On examination, temperature, pulse, and respiration were normal. There was a painful swelling of the right scrotum about the size of a grapefruit. Reduction was not attempted. Operation was performed at 2 p.m. the same day, the anaesthetic being 2 ml. heavy nupercaine intrathecally. On opening the hernia sac a loop of plum-coloured small intestine presented, and on being brought out of the wound was seen to be strangulated by rotation of the loop on its mesentery. This loop of bowel was viable. Further exploration of the sac showed two normal loops of small intestine to be also in the sac with a small quantity of fluid. The loops of intestine were returned to the abdomen and the sac excised after ligating its neck. Repair was performed and the sac closed. The patient was discharged after twenty-one days, the only complication being a stitch abscess. This case is interesting in that volvulus occurred in a hernia sac and that two other loops of bowel in the sac were normal. No cause could be found for the volvulus, unless the rhythmical semi-rotary motion of cutting grass with a long knife all day had initiated it. I am indebted to Dr. C. W. F. Mackay, Senior Medical Officer, The Gambia, for permission to publish this case.

The Nursing Crisis

Dr. G. C. PETHER (Colchester) writes: Is it not possible that one factor influencing the desire to escape from hospital is this: Some years ago I had the opportunity to observe the change in atmosphere when a municipal hospital was taken over by a county authority. Now under the old employers the nurses and doctors met the municipal representatives on many occasions, social and otherwise. It was not difficult to feel loyalty and affection for an organization of limited size and which had local roots. Pay and conditions were fairly good. When the county authority took over they tended to improve; but so many of the intangibles were lost. The personal touch disappeared. It was more difficult to feel either loyalty or affection for an enormous organization; and this organization was not distinguished for its good manners in handling its staff. These things happened in a large city—one of the loneliest places in the world, as we all know. Many a time a young nurse would weep from sheer loneliness and say, "I've been here five years and I haven't been in anyone's house once." No doubt there were many pious and kindly people near by who were engaged in supporting missions to the heathen in foreign parts. The strain of this kind of institution life could nevertheless be tolerated if members of the staff felt a happy family with their local loyalties and affections. If you take these away and make a nurse No. XYZ 54879 of the Southern Hospital Regional Authority, how can she continue to give such devoted service? Are not our planners planning away all our personality and all our affections? Surely these matters have something to do with our present discontents.

Strange Encounter

Dr. J. SULLIVAN (Manor Park, Essex) writes: In the early hours of the morning I was recently called to an emergency maternity case in a "pre-fab." On opening the door a pallid woman swayed forward into my arms (reminding me of one of those American films in which someone opens a cupboard door and a corpse falls forward). I tried to get her back to bed, and on the way to the bedroom I became aware of another woman crouched behind her, dogging her footsteps and holding a newspaper parcel in her arms. In the bedroom I saw a loop of umbilical cord hanging from the parcel and realized that it contained the newborn baby. A panic-stricken and completely helpless husband hovered in the background. On inquiry I found that the woman had delivered herself of the baby into the lavatory basin. The mother (a primipara) and the baby are doing well. No midwife was available at the time.

The Pemmican Journal

Mr. H. A. BRUCE, F.R.C.S. (Toronto) writes: I appreciate very much your kindness in sending me the abbreviated copy of your *Journal* published on Feb. 22 of this year, which will be of great historic interest. When I have finished with it I will pass it over to the Academy of Medicine in Toronto for their records. I wish to commend you for your enterprise in not failing your subscribers when you are faced with a shut-down by the Government.

Obituary

Dr. CLAUD FRANCIS DRUITT, of Walton-by-Clevedon, Somerset, died suddenly at his home on April 11 at the age of 77. Dr. Druitt was a student at the Royal Hospital and University College, Bristol, where he qualified in 1896. He was assistant house-physician and later casualty officer at the Bristol General Hospital before settling in general practice in Derby. After he had been in practice there for thirty years he retired and went to live in Somerset. He had been on the town council at Derby for several years and was a lay reader at St. Mary's Church, Boulton.

F. G. B. writes: He was much loved at Clevedon. He was vicar's warden at Christ Church, where he will be sadly missed. He was deeply interested in home and foreign missions and was ever ready to lend a hand in helping them. A great lover of nature, he was an accomplished ornithologist, and during his lifetime made a large collection of British birds and insects, which he presented to Halesowen Grammar School. He gave talks on nature subjects to children at schools and started a nature club for boys. Claud Druitt was a great Christian and he left a deep impression on those who knew and loved him.

Dr. JOHN MCGREGOR HARTLEY REID died suddenly on April 30 at the age of 55. John McGregor Reid graduated M.B., Ch.B. from Aberdeen University in 1914, and took the D.P.H. a year later. In France in 1915 at Ypres he suffered in the surprise gas attack. After recovery in England, he returned to France until 1918, and then served in Egypt and Palestine until 1920. On being released from the R.A.M.C. he held various resident appointments at the Leicester Royal Infirmary. Subsequently he was house-surgeon to Sir Robert Jones at the Royal Southern Hospital, Liverpool, and then assistant medical officer in the Aberdeen asylum. His mother lived in Italy, and two sisters in France, and frequent visits to these countries and a period of study in Paris, with his natural facility for languages, made him fluent in both French and Italian. In 1925 he settled in the West End, where he built up a large practice, especially in connexion with clubs, hotels, and the stage. Not long afterwards he became a medical officer to the Shaftesbury Homes and Arethusa Training Ship, and began to interest himself in dermatology. He was attached to St. John's Hospital for Skin Diseases for fifteen years, latterly as the senior registrar. Every member of the visiting staff knew him well, and there were frequent calls upon him to act as deputy. He had charge of the varicose vein clinic, and its organization was entirely his own. During the recent war he was in residence in London, Mrs. Reid remaining with him throughout. They suffered heavily from bombing without receiving actual physical injury. Windows were repaired several times, and their furniture was all lost, but they remained to hold together the skeleton practice of those times, and to keep on with the work at St. John's Hospital. Unfortunately, those raids told on Reid's health, affecting the chronic bronchitis from which he had suffered since he was gassed in France. His health began to decline. In spite of this he responded with tenacity to every call made upon him by patients and hospital, doing a full day's work almost to the time of his death. He was a man of character whose loss will be felt by many, and a heartfelt sympathy is extended by all to Mrs. McGregor Reid.—H. C.

Dr. GEORGE SMITH BANKS, formerly regional tuberculosis medical officer for the City of Aberdeen and the counties of Aberdeen and Kincardine, died at his home at Musselburgh on May 9 at the age of 67. The son of a school-master in Dumfriesshire, he graduated at Edinburgh University in 1905. and after holding various house appointments obtained the D.P.H. in 1909. Soon afterwards he was appointed resident physician and assistant medical officer of health at the City Hospital, Aberdeen. In 1911 the tuberculosis scheme began to take shape under the then M.O.H., the late Prof. M. Hay. Dr. Banks, with the late Dr. Arthur Hugh Lister, started the tuberculosis dispensary in Aberdeen, and the first wards devoted entirely to the treatment of tuberculosis were opened. In 1912 he became tuberculosis officer, and when the regional public health services were initiated in 1928 he became the chief regional officer. He rapidly developed an extensive tuberculosis service and, except for a short interruption during the 1914–18 war, was continuously engaged in his specialty. Eventually in the city alone he had some 220 beds available for his patients. In 1919 he was appointed lecturer in tuberculosis at Aberdeen University. He had been a member of the British Medical Association throughout his whole professional life, and an active member of the Tuberculosis Society of Scotland. It would be difficult indeed for those who have not worked daily with Dr. Banks to realize his enormous capacity for work, his clinical acumen, and his loyalty to the public health department which he so ably served for thirty-five years. He is survived by his wife, a married daughter, and a young son.

Dr. SAMUEL ALLAN SHIACH died at the age of 77 at Ardgilzean, near Elgin, on May 2. After graduating M.B., C.M. at Edinburgh in 1891, he took his M.D. in 1893 with distinction. His first appointment was as senior house-surgeon at Bradford Infirmary, and there followed some three years as pathologist and assistant medical officer at the county asylum, Lancaster. He then entered general practice in Llanishen, near Cardiff, in 1898. For thirty years Dr. Shiach carried on an extensive practice. Many have cause to remember his shrewd guidance and willing advice in all manner of problems. His sound character and blunt kindness instilled confidence in all those who sought his aid. For many years he was an enthusiastic supporter of the Cardiff Medical Society, of which he was an ex-president. Indifferent health led him to retire from practice in 1928 and he settled in Guildford, where he soon made many friends and continued to take an active interest in medical and worldly affairs. During the war Dr. Shiach returned to his native Scotland, where, after some five years of failing health, he died, leaving a widow and one son.

Dr. CHARLES PERCY WOODSTOCK died suddenly on May 18 at his home in Bournemouth. He had been in failing health for some time, yet kept at work for as long as his physical strength allowed. A student at Anderson College and the University of Glasgow, he qualified in 1899, afterwards occupying various house appointments, then sailing East on several voyages as a ship surgeon before settling in general practice in Bournemouth. Except for the period of the 1914–18 war, during which he was on military service, he continued to practise for forty years. For thirty-five of these he was honorary medical officer to the Firs Home for patients with advanced tuberculosis.

S. W. S. writes: Woodstock's love for the sea persisted all his days, showing itself in the invariable nautical blue suit with reefer jacket he wore while doing his practice. He was a bachelor, and for years he had been a "living landmark" about the Talbot Woods district of Bournemouth. He was held in great esteem by his colleagues, and by a host of patients and friends, by whom he will be much missed.

Universities and Colleges

UNIVERSITY OF LONDON

The title of Professor Emeritus of Obstetric Medicine in the University has been conferred on Francis James Browne, M.D., Aberd., F.R.C.S.Ed., F.R.C.O.G., on his retirement from the University Professorship of Obstetric Medicine at University College Hospital Medical School.

Alan Kekwick, M.B., F.R.C.P., has been appointed to the University Chair of Medicine tenable at Middlesex Hospital Medical School as from Oct. 1, 1946.

E. S. Horning, D.Sc., has been appointed to the University Readership in Experimental Pathology tenable at the Royal Cancer Hospital from May 1.

UNIVERSITY OF LEEDS

On July 16 the honorary degree of Ph.D. will be conferred upon Henry Alvin Mahony, L.D.S., Principal Dental Officer, Ministry of Health, and William Goodwin Senior, L.D.S., Dental Secretary of the British Dental Association, on the occasion of the annual congress of the British Dental Students' Association at Leeds.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

P. C. P. Cloake, M.D., F.R.C.P., will deliver the Humphry Davy Rolleston Lectures at the College, Pall Mall East, S.W., on Tuesday, July 15, and Thursday, July 17, at 5 p.m. His subject is: "The Treatment of Disseminated Sclerosis by Artificial Pyrexia and Prolonged Administration of Arsenic."

SOCIETY OF APOTHECARIES OF LONDON

On Tuesday, June 17, the Society is to confer its Gold Medal, in triplicate, upon F. H. S. Curd, D. G. Davey, and F. L. Rose, in recognition of their joint research which culminated in the discovery of paludrine. The ceremony is called at 8 for 8.30 p.m. and will be followed by a soirée.

Medico-Legal

WILFUL REFUSAL OF INTERCOURSE

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

Since the passage of Herbert's Act in 1937 wilful refusal of sexual intercourse from the beginning of the marriage has been a ground for a decree of nullity, but once the marriage has been consummated the remedy of nullity is not available, and wilful refusal is not in itself a ground for divorce. A recent decision of the House of Lords[1] has defeated a husband's plea that it should be treated in law as a form of desertion, which is a ground for divorce if it continues for three years. A sergeant in the Royal Air Force, aged 22, married during the war a spinster of 30 and lived in the wife's two-roomed flat when he was on leave. Sexual intercourse took place for the first four or five months, but when the husband next came on leave the wife said that she had prepared a separate bed for him and did not wish to resume marital relations, because she thought sex was beastly and did not want any more of it. In other respects they lived together as man and wife, taking their meals together and going out to clubs and entertainments. In spite of the husband's repeated requests the wife would never again allow intercourse.

Desertion has never been defined either by statute or by a judge, and Lord Jowett, Lord Chancellor, declared that he would follow this example. In 1924 Sir Henry Duke (afterwards Lord Merivale) laid down[2] that refusal of sexual intercourse was not desertion, and this ruling was followed many times before Herbert's Act in 1937 made desertion a ground for divorce. The Lord Chancellor did not think that Parliament, in passing Herbert's Act, could have intended the word "desertion" to bear a meaning which it did not naturally bear and which judicial authority had so recently denied to it. He disagreed roundly with Lord Justice Scott's dissenting judgment, given when the Court of Appeal by a majority decided against the husband. The Lord Justice had reasoned that marriage, wherever it took place, was to be regarded as Christian marriage; the Prayer Book stated that one of the objects of marriage was the procreation of children; sexual intercourse for the procreation of children was fundamental to the marriage state; therefore the wife who refused sexual intercourse deserted her husband. This dangerous and fallacious argument, said the Lord Chancellor, proceeded on the basis that any fundamental breach of the obligations of holy matrimony as laid down in the Prayer Book constituted desertion under Herbert's Act. It would apply to a marriage duly consummated in which one spouse was unable through physical infirmity to procreate children. The law of the land could not be coextensive with the law of morals; the civil consequences of marriage could not be identical with its religious consequences. Marriage meant different things to different persons according to their upbringing, outlook, and religious belief, but must have the same legal consequences for all. The solution to the present question must be found not in a consideration of the Christian doctrine of marriage but in a true construction of the relevant Acts of Parliament. Further, it was most undesirable for a court to inquire into the secret intimacies of the marriage bed in such cases as the present, and if refusal of intercourse could constitute desertion it might do so if it were tolerated only on rare and exceptional occasions. The husband's petition therefore failed before their Lordships' House, as it had failed at the first instance and in the Court of Appeal.

1 *Weatherley v. Weatherley.* 1947, 1 All E.R. 563.
2 *Jackson v. Jackson.* 1924, P. 19.

The 1947 edition of the *Register of Speech Therapists* has just been published. The register is arranged in geographical order and includes three groups—practising, non-practising, and retired speech therapists. Medical practitioners may obtain a copy free on application to the Registrar, Board of Registration of Medical Auxiliaries, British Medical Association House, Tavistock Square, London, W.C.1.

The Services

Majors A. H. MacC. Eaton and G. A. W. Neill, R.A.M.C., have been awarded the Efficiency Decoration of the Territorial Army.

The Prince Regent of Belgium has conferred the Croix de Guerre, 1940, with Palm upon Captain R. L. Rees, R.A.M.C., in recognition of distinguished services in the cause of the Allies.

The President of the Czechoslovak Republic has conferred the Order of the White Lion, Third Class, upon Major-General (temporary) Sir Henry L. Tidy, K.C.B., late R.A.M.C., and the Medal for Merit, First Class, upon Lieutenant-Colonel H. Ross, C.I.E., O.B.E., I.M.S., in recognition of distinguished services in the cause of the Allies.

The President of the U.S.A. has conferred the following decorations in recognition of distinguished services in the cause of the Allies:

Legion of Merit, Degree of Commander.—Major-General W. C. Hartgill, C.B., O.B.E., M.C., K.H.S., late R.A.M.C.

Legion of Merit, Degree of Officer.—Brigadier (local) D. B. McGrigor, O.B.E., R.A.M.C.

Bronze Star Medal.—Lieutenant-Colonel (temporary) A. J. King and Major (local) H. G. Mcquade, R.A.M.C.

Medal of Freedom with Bronze Palm.—Major (local) W. J. Wiles, R.A.M.C.

DEATHS IN THE SERVICES

Major-General O. L. ROBINSON died at his home at Walton-on-Thames on May 21 at the age of 80. Oliver Long Robinson was educated at Trinity College, Dublin, where he was demonstrator of anatomy. He qualified in medicine in 1890, and a year later joined the R.A.M.C. and was secretary and registrar of the Royal Victoria Hospital, Netley, for a time. He saw active service in the Near East during the 1914-18 war, having been promoted to lieutenant-colonel in 1913. He was promoted to colonel and appointed an honorary physician to the King four years later. He was mentioned in dispatches and made a C.M.G. in 1916 and a C.B. in 1919. In 1923, the year following his promotion to the rank of major-general, he was appointed Director of Medical Services in India, a post held alternately by officers of the British and Indian services. He retired from this position and from the Army in 1927. He was appointed colonel commandant of the R.A.M.C. in succession to Lieutenant-General Sir Charles Burtchaell in 1932. He retained this office until 1937. General Robinson had been a member of the British Medical Association for over fifty years. He was a member of the Council in 1908 and at different times had served on the R.A.M.C. subcommittee and on other central committees.

Medical News

The next meeting of the Middlesex County Medical Society will be held at North Middlesex County Hospital, Edmonton, on Saturday, June 14, at 3 p.m., when there will be a demonstration of cases and a short talk by Dr. Chapman on "Haemolytic Anaemia."

The annual general meeting of the Research Defence Society will be held at 26, Portland Place, London, W., on Tuesday, June 17, at 3.15 p.m., when the chair will be taken by the President, Lord Hailey, supported by Prof. A. V. Hill, Chairman of Committee. The sixteenth Stephen Paget Memorial Lecture will be delivered by Prof. G. H. Wooldridge, F.R.C.V.S., on "What Animals Owe to Experimental Research."

The Middleton and North Manchester Medical Society announces that a golf competition, open to all members of the British Medical Association in the Manchester, Oldham, and Rochdale Divisions will be held on Wednesday, June 18. Particulars may be obtained from Dr. James A. Strachan, 566, Broadway, Chadderton, Lancs.

The Medical Women's International Association will hold its fifth congress at Amsterdam from June 24–30. At the scientific meeting on June 25 there will be a discussion on the "responsibilities of medical women in world reconstruction."

An English surgeon's bleeding bowl in solid silver with a pierced triangular handle of 1682, a silver medicine spoon with lid and spout of 1810, and ancient pottery medicine spoons from China will be among the exhibits at the Antique Dealers' Fair at Grosvenor House, Park Lane, London, W., from June 11 to 27.

On May 31 the headquarters of the Greater London Blood Transfusion Service were transferred to 10, Collingham Road, S.W.5 (Tel.: Frobisher 6477/8 (2 lines), day and night).

The annual general meeting of the British Association of Urological Surgeons Home and Overseas will be held at the Royal Faculty of Physicians and Surgeons, 242, St. Vincent Street, Glasgow, on Friday and Saturday, June 13 and 14. The provisional arrangements are as follows: June 13, 10 a.m., business meeting; 11 a.m., (*a*) short papers, (*b*) films; 2 p.m., operating sessions; 5.30 p.m., Reception by the Principal, Sir Hector Hetherington; at the University; 7.15 p.m. for 7.45 p.m., Association dinner at Central Hotel. (Tickets, approximately 17s. 6d. each, exclusive of wine.) June 14, 9.30 a.m., at the Faculty Hall, discussion on "The Treatment of Serious Tumours of the Bladder," to be opened by the President, Mr. R. Ogier Ward; 2 p.m., short papers and films. Members should make their own hotel arrangements direct, mentioning that they are members of the association. Any member in difficulty over accommodation is invited to write to the local secretary, Mr. W. S. Mack, 20, Royal Terrace, Glasgow, C.3.

Mr. Anthony Eden was the guest of honour at the Annual Dinner of the University of Birmingham Medical Society, which was held on Friday, May 9. Other guests included the Lord Mayor and Lady Mayoress of Birmingham; Mr. Sydney Vernon, Pro-Chancellor; Dr. Raymond Priestley, Vice-Chancellor; Mr. Newton, Treasurer of the University; Sir Leonard Parsons, Dean of the Faculty of Medicine; and other members of the University Council. The chair was taken by the President of the Society (Prof. A. C. Frazer).

Donal Sheehan, M.D., D.Sc., professor of anatomy and lately acting dean of the New York University College of Medicine, has been appointed general director of the Commonwealth Fund, in succession to Mr. Barry C. Smith, who will retire on Sept. 1.

As already announced the Fourth International Cancer Research Congress will be held at St. Louis, Missouri, from Sept. 2 to 7, under the joint auspices of the Union Internationale Contre le Cancer and the American Association for Cancer Research. Headquarters will be at Jefferson Hotel, 415, North 12th Street, St. Louis 1, Mo., U.S.A. A programme is being drafted to cover the general biology of cancer, aetiology (viruses, chemical carcinogens, hormones, and environmental factors), biochemistry, radiotherapy and the development of nuclear physics, chemotherapy, and various clinical aspects. Further information concerning the congress may be obtained from Prof. Alexander Haddow, M.D., Chester Beatty Research Institute, The Royal Cancer Hospital (Free), Fulham Road, London, S.W.3.

The Secretary of State for India and for Burma has appointed Brigadiers S. M. Hepworth, M.B., Ch.B. (Radiologist), G. W. Bamber, M.D., F.R.C.P. (Dermatologist), E. E. Prebble, M.B., Ch.B. (Venereologist), D. McAlpine, M.D., F.R.C.P. (Neurologist), E. A. Bennet, M.D. (Psychiatrist), H. K. Ashworth, M.B., Ch.B. (Anaesthetist), The Hon. G. F. O. Bridgeman, *M.C.*, F.R.C.S. (Ophthalmologist), Grant Massie, C.B.E., M.S., F.R.C.S. (Surgeon), and J. D. S. Cameron, C.B.E., M.D., F.R.C.P. (Physician), to be Honorary Consultants to the India and Burma Offices in recognition of their valuable service as Consultants to G.H.Q., India, during the war.

On the appointed day for the National Health Service the Vaccination Acts will cease to have effect and the compulsory vaccination of infants against smallpox, as well as the functions and appointments of public vaccinators and vaccination officers, will come to an end. The powers under which local authorities now undertake diphtheria immunization will also cease. From the appointed day local authorities will be solely responsible for making arrangements with medical practitioners for free vaccination and diphtheria immunization for all in their area who desire these services. The present effort at securing immunization of children under the age of 5, and especially of infants, should continue, and it is thought that local authorities will have only to review carefully existing arrangements in order to ensure that they are adequate. Supplies of diphtheria antitoxin will be made available through the hospital service, and its administration will be within the terms of service of medical practitioners providing services under part IV of the Act. The Minister of Health intends publicly to encourage vaccination and revaccination against smallpox, and invites the co-operation of all local authorities. In addition if a local authority on the advice of its medical officer of health wishes to make arrangements with regard to any other disease the Ministry of Health will consider its proposals. General practitioners performing vaccination or immunization under the local authority's arrangement will be entitled to a fee, which will be fixed by negotiation with representatives of the profession. The Ministry of Health will provide vaccines and prophylactics free of charge.

The Council of the Royal Society of Arts has awarded the Albert Medal to Sir Robert Robinson for his outstanding contributions to the advancement of organic chemistry, in particular his work on antibiotics.

Sir Lionel Whitby, Regius Professor of Physic at Cambridge University, has been elected Master of Downing College.

The British Empire Leprosy Relief Association announces that, following the retirement of Dr. Ernest Muir, Dr. Gordon A. Ryrie has been appointed Medical Secretary of the Association.

Dr. W. N. Maclay has succeeded Dr. Ronald Jarman as the President of the Chelsea Clinical Society.

The Royal Medical Foundation of Epsom College announces that Henry Duncalfe Annuities of £30 per annum each for spinsters in need of assistance will shortly be awarded by the Council. Candidates must be daughters of registered medical practitioners and must have attained the age of 50 years. Pensions for impecunious medical practitioners or widows of medical men, and Foundation Scholarships providing education, clothing, and maintenance free of cost for the necessitous sons of medical practitioners, are also available from the funds of the Foundation. Forms of application for the above annuities, pensions, and scholarships may be obtained from the secretary, Epsom College, Surrey.

EPIDEMIOLOGICAL NOTES

Smallpox

Since the beginning of the year information concerning 59 confirmed cases of variola major has reached the Ministry of Health. This compares with 56 for the whole of 1946, which was the highest incidence since 1934 (179 cases, mainly variola minor). These cases arise from two distinct sources. The first, which was not identified, resulted in 15 cases in two generations in a common lodging-house and public assistance hospital at Grimsby (Lincs.) with dates of onset between Feb. 16 and March 2. The second source was a highly modified attack in a soldier flown home from India on compassionate leave. He developed the disease at Bilston U.D., Staffs., on March 2 after landing in England on Feb. 23.

Cases in direct succession to these two sources are still arising. The present outbreak at Barnsley, in the West Riding of Yorkshire, is almost certainly related to the Grimsby episode. The disease introduced from India continues to occur in Bilston and in the adjacent urban district of Coseley. Associated with the Grimsby source there have been foci at Stepney M.B. (London), 2 cases in two generations; Scunthorpe B. (Lincs.), 7 cases in two generations; and Doncaster B. (Yorks.), 1 case; but these appear to have been eradicated.

In connexion with the Bilston source, a single case occurred in Birmingham on May 1. Three cases in two generations at Sheffield may also have been associated with Bilston.

Barnsley.—The first generation numbered 5 cases (3 deaths) at Barnsley and 1 at Bermondsey. There has been no spread from this latter case, doubtless as the result of the prompt action taken by a practitioner who diagnosed the disease at sight on the first day of rash. The second generation at Barnsley so far numbers 4 cases detected since May 29. They are in the line of contact either at the common lodging-house (24A Doncaster Road) or at St. Helen's Hospital and do not indicate that the disease is out of control. The only alarming feature is that some of the common lodging-house contacts have not been traced and may give rise to other foci, particularly along the tramp routes across England through Lincolnshire, West Riding of Yorkshire, Derbyshire, Cheshire, and Lancashire.

Bilston and Coseley.—The mother and sister of an unvaccinated girl who died on May 16—four days after onset—were removed to the smallpox hospital on May 31 (onsets May 29 and 30). The mother of a kitchenmaid at Moxley Infectious Diseases Hospital, removed from her home in Coseley on May 19, has now developed the disease (onset May 28; rash and removal May 30).

Discussion of Table

In *England and Wales* there were increases in the notifications of measles 2,544, diphtheria 49, and smallpox 10. A small increase was recorded for scarlet fever 26, and there were decreases in the incidence of whooping-cough 102 and of dysentery 45.

Only small variations occurred in the local trends of scarlet fever. The rise in the incidence of diphtheria was due to small increases throughout the country and no large change occurred in any locality. A small decrease in the notifications of whooping-cough was recorded in most areas; the only exception of note was an increase of 60 in Surrey. The largest rises in the notifications of measles were Yorkshire West Riding 316, Derbyshire 231, Glamorganshire 224, Warwickshire 184, Kent 165, Surrey 151, Staffordshire 105, Gloucestershire 104, and Cheshire 100.

The fall in the number of cases of dysentery was due to the experience of Lancashire with 47 fewer cases than in the preceding week. Of the 25 cases of dysentery in Lancashire 19 were notified from Prestwich M.B.

With the exception of the 13 cases notified five weeks ago, the returns of smallpox were the largest of recent years; the notifications were Yorkshire West Riding, Barnsley C.B. 6; Staffordshire, Bilston M.B. 4; Warwickshire, Birmingham C.B. 1; London, Bermondsey 1 (a contact from Barnsley).

In *Scotland* increases were recorded in the notifications of measles 29, cerebrospinal fever 18, scarlet fever 17, and diphtheria 11. The rise in the incidence of cerebrospinal fever and of diphtheria occurred in the western area; half the total notifications of these diseases in the country were recorded in Glasgow.

In *Eire* a rise occurred in the notifications of measles 30, whooping-cough 23, and scarlet fever 13. New outbreaks during the week were measles at Wexford, New Ross U.D. 17, and whooping-cough at Mayo, Claremorris R.D. 12.

In *Northern Ireland* measles declined to 14, the lowest total for recent months, but scarlet fever increased by 12.

Quarterly Returns for Northern Ireland

The birth rate during the December quarter was 21.8 per 1,000, being 0.3 above the average of the fourth quarters during 1941–5. Infant mortality was 53 per 1,000 registered births and was 17 below the average of the five preceding December quarters. Maternal mortality was 2.9 per 1,000 births, being 0.3 above the five years average. The general death rate was 11.8 per 1,000 and was 0.6 above the rate for the corresponding quarter of 1945 but 0.8 below the average of the five preceding fourth quarters. There were 204 deaths attributed to respiratory tuberculosis and 54 to other forms of tuberculosis; these were 7 above and 10 below the average of the fourth quarters 1941–5. There were 67 cases of typhoid fever notified in Armagh city and county during the quarter. This outbreak of typhoid fever was due to contaminated milk, and altogether 77 cases, of which 5 were fatal, were traced.

Quarterly Returns for Eire

During the December quarter a birth rate of 20.7 per 1,000 was recorded. Infant mortality was 62 per 1,000 registered births and was 10 below the rate for the fourth quarter of 1945. Maternal mortality was 1.5 per 1,000 registered births, being 0.1 below the rate for the corresponding quarter of the preceding year. The general death rate was 12.5 per 1,000 and was the lowest fourth quarter rate since 1941. For the whole year the birth rate was 22.6 per 1,000 and was 0.2 above the rate for 1945. Infant mortality was 63 per 1,000 and was the lowest rate ever recorded. The general death rate was 13.9 per 1,000 and was 0.4 below the rate for 1945. Deaths from diphtheria were 101 below the total for 1945. There were 903 deaths attributed to diarrhoea and enteritis; of these 461 were registered in Dublin C.B. The death rate for pulmonary tuberculosis was 0.9 per 1,000 and 0.2 for other forms; the rates for 1945 were 0.9 and 0.3 respectively.

Austria

The following table is an extract from the April issue of the *Monthly Report of the Allied Commission for Austria* (British Element) comparing the rates for 1939 with those of 1945 and 1946 for Austria and Vienna.

	1939	1945	1946
Birth rate:			
Austria	20.8	13.6	15.2
Vienna	14.8	9.6	10.3
Infant mortality:			
Austria	69.6	164.9	77.0
Vienna	12.6	188.2	78.8
Death rate, all causes:			
Austria	15.3	23.4	14.2
Vienna	16.4	32.8	19.0
Death rate, tuberculosis:			
Austria	0.95	1.28	0.99
Vienna	1.22	2.62	1.95

A comparison of the figures for 1939 with those for 1945 suggests that Vienna fared rather worse during the war than the whole of Austria. The death rates from all causes and from tuberculosis in 1946 fell to pre-war levels for Austria but remained considerably above pre-war level in Vienna. The very low infant mortality recorded for Vienna in 1939 is an error; the infant mortality in this city during 1937 and 1938 was 71 and 51.

Week Ending May 24

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 782, whooping-cough 1,879, diphtheria 197, measles 12,830, acute pneumonia 557, cerebrospinal fever 65, dysentery 47, acute poliomyelitis 11, smallpox 8, paratyphoid 6, typhoid 3.

No. 20

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended May 17.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each Infectious disease, are for (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1947 (a)	1947 (b)	1947 (c)	1947 (d)	1947 (e)	1946 (Corresponding Week) (a)	1946 (Corresponding Week) (b)	1946 (Corresponding Week) (c)	1946 (Corresponding Week) (d)	1946 (Corresponding Week) (e)
Cerebrospinal fever	57	3	37	—	2	49	6	25	2	—
Deaths		2	—				2	3		
Diphtheria	243	23	66	15	3	369	35	105	53	16
Deaths	—	—	1	—	—	5	2	1	1	—
Dysentery	65	8	9	—	—	120	19	59	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	2	—	1	—	—	1	—	—	—	—
Deaths		—					—			
Erysipelas			41	3	—			44	4	1
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				33					32	
Deaths	80	7	15	3	3	52	5	13	14	4
Measles*	12, 78	532	186	82	14	2,658	836	625	64	3
Deaths	8	—	—	—	—	1	—	1	1	—
Ophthalmia neonatorum	85	10	19	2	—	68	6	12	—	—
Deaths										
Paratyphoid fever	3	—	—	—	—	2	—	1(A) 1(B)	—	1(B)
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	578	36	3	6	5	461	22	9	3	4
Deaths (from influenza)†	11	3	—	1	—	6	1	—	—	1
Pneumonia, primary		30	180	27			20	197	24	
Deaths				9	12				4	8
Polio-encephalitis, acute	—	—				—	—			
Deaths		—					—			
Poliomyelitis, acute	11	—	1	1	—	8	—	—	2	—
Deaths		—					—			
Puerperal fever		1	15		—		3	21		—
Deaths										
Puerperal pyrexia‡	139	8	11	3	—	124	13	27	2	1
Deaths		—					2			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	1,028	91	146	34	41	1,112	74	154	12	24
Deaths	—	—	—	—	—	1	1	1	—	—
Smallpox	12	1	—	—	—	5	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	9	2	—	1	—	5	2	—	4	1
Deaths	—	—	1	—	—	2	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	2,120	263	231	63	20	2,306	188	112	39	29
Deaths	11	1	6	3	2	10	1	—	—	2
Deaths (0–1 year)	413	52	74	26	18	338	53	59	37	16
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,445	669	597	195	113	4,494	662	666	213	132
Annual death rate (per 1,000 persons living)			12·4	12·3				14·7	13·6	
Live births	10,140	1606	1203	434	303	8,570	1295	1005	526	263
Annual rate per 1,000 persons living			24·2	27·4				20·2	33·7	
Stillbirths	270	41	34			263	28	31		
Rate per 1,000 total births (including stillborn)			27					30		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Any Questions ?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Oranges, Bananas, and Dates

Q.—*(a) Oranges and bananas are shipped unripe from the countries of origin; this often means that only partially ripe fruit is distributed in this country. Family practitioners are kept busy treating children glutted by such fruit. Has not sentiment outweighed dietetic discretion in this exclusive allocation to children? (b) What is the nutritional value of the date? What vitamins are involved and are they of any value?*

A.—(*a*) Oranges and bananas are allocated as follows. Oranges: on any ration book; what is left over of the allocation after five days, without ration books. Bananas: on green ration book (R.B.1—up to 5 years) and on blue ration book (R.B.2—from 5 to 18 years) only. Oranges are therefore not allocated exclusively to children. The quantity of bananas distributed is so small that, unless their parents have access to irregular sources, children have little chance of being glutted.

(*b*) The main value of dates, apart from adding to the variety of the diet, is to provide calories; 100 g. provides about 240 calories, mainly as sugar. Estimates of the amounts of vitamins vary. According to *Nutritive Values of War-time Foods* (H.M. Stationery Office, 1945) the vitamin-A potency is 100 i.u. per 100 g., and no vitamin B_1 or C is present. According to other estimates the vitamin A is higher, but is still not enough to make an important addition to the day's supply; the vitamin B_1 is enough for the metabolism of the carbohydrate of the date, and the amount of riboflavine in 1 oz. (28 g.) of dates is about one-third of that in 1 oz. of milk.

Palpitations

Q.—*What is the treatment for palpitations? Standard textbooks dismiss this condition in a few lines.*

A.—There can be no uniform treatment for palpitations. It is not a morbid entity but a symptom, and occurs in a wide range of conditions. The cause must first be determined. In young people it rarely represents heart disease; in older subjects it may be associated with arrhythmia, hypertension, or heart failure. It may be due to toxic or infective conditions or it may follow the administration of drugs. Mediastinal tumours or abdominal distension may provoke palpitation by mechanical means. The symptom is common in nervous people, in whom it may cause real discomfort or even a painful sensation. It is not of itself an indication of heart disease, but fear of this may aggravate the symptom through anxiety. Patients complaining of palpitation should be thoroughly examined to exclude any organic cause, and this in itself is part of treatment, as it goes far in gaining the confidence of the patient and lending weight to the opinion and advice given. Any underlying cause—such as anaemia, oral sepsis, or fatigue—should be corrected. If heart disease is present it should be treated appropriately; if it is absent, firm reassurance on this point should be given. Palpitations due to overaction of the heart may be alleviated by small doses of bromide or phenobarbitone given twice daily; palpitation associated with premature beats is most likely to be relieved by checking the arrhythmia with a pill containing quinine sulphate gr. 3 (0.2 g.) with ext. nuc. vomicae gr. 1/4 (16 mg.) thrice daily.

Enterogastrone

Q.—*What is known in this country of the preparation "enterogastrone"?*

A.—The story of enterogastrone begins as long ago as 1929, when three Chinese workers—Feng, Hou, and Lim—demonstrated the presence in the intestinal mucosa of a substance which inhibited gastric secretion. Kosaka and Lim gave this substance the name "enterogastrone" in 1930. The inhibition of gastric secretion by olive oil was shown to be effected through the action of enterogastrone. Additional work was done by Ivy and Gray in Chicago, and Gray described a substance in the urine which depressed gastric secretion; he called this "urogastrone." Despite the passage of eighteen years no practical application of enterogastrone or urogastrone has been devised. It might be worth consulting an annotation in this *Journal* (Aug. 10, 1946, p. 204), in which Morrison's work on hog's stomach is described. An extract of the mucosa and submucosa of fresh stomach—not intestine—appeared to protect dogs from the peptic ulcers induced by the administration of yellow cincophen.

Treatment of Epilepsy

Q.—*A single woman aged 25 has suffered from epileptic fits for the past seven years. These were at first controlled by bromides; then, because of repeated attacks, by a combination of bromide and phenobarbitone This succeeded for a year; then there were a series of attacks despite increase of drugs. Hydantoinates then proved satisfactory for a year or two, but were followed by a rapid succession of fits; a combination of phenobarbitone and hydantoinates had a similar result. Can you recommend further treatment?*

A.—Combinations of phenobarbitone and hydantoinates in carefully balanced doses are capable of controlling the great majority of cases of major epilepsy. With regard to the latter, it may be necessary to give full doses—that is, 1½ gr. (0.1 g.) four times in the twenty-four hours. As this dosage is near the level of toxicity it cannot be increased. If the attacks are of the petit-mal variety then drugs of the "tridione" class will be indicated.

Oedema at High Altitudes

Q.—*When she climbed Skiddaw eight years ago a woman's hands became so swollen that she was unable to close them. On the descent the swelling subsided. She has a tendency to hay-fever, and two of her relatives are asthmatics. In view of this history, is there a possibility of serious consequences (such as oedema of the glottis) arising from a visit to the Swiss mountains, and is there any preventive treatment?*

A.—It is most unlikely that the lowered barometric pressure was responsible for the symptoms which occurred in climbing Skiddaw (a nearly equal fall in barometric pressure may occur at sea level in severe winter depressions). The anoxia experienced would be difficult to detect, and, as a physiological stress, negligible in comparison with the other stresses of such an expedition. It is therefore not considered that this is a contraindication to a visit to Switzerland, so long as only moderate altitudes (up to 5,000 feet) are attempted and so long as the patient follows a normal regimen suited to her age and history.

Stilboestrol to Control Libido

Q.—*Can stilboestrol be used to control excessive libido in the male? As oestrogenic treatment of carcinoma of the prostate is followed by atrophy of the genitalia and loss of sexual function, it occurred to me that similar treatment may control an undue degree of spermatogenesis in the younger male.*

A.—Yes, it can, even to the point of complete suppression. Its use is justified in extreme cases, temporarily or intermittently, but it interferes with the structure of the testis, and therefore intervals are required for recovery. It is difficult to say if a dose can be found which inhibits functionally without structural damage, or to know clinically when such a dose is arrived at, and it may be that the "all or none" law operates. Incidentally, libido is related to interstitial cell function, and not to the degree of spermatogenesis.

Otosclerosis and Malaria

Q.—*A patient became hard of hearing after an attack of malaria, and subsequent bouts increased his deafness. Investigation revealed otosclerosis; there were no family history and no quinine deafness. Did the malaria cause the onset or increase the deafness of otosclerosis? What would you advise?*

A.—It may be confidently assumed that the malaria increased the deafness of otosclerosis. The cause of the latter is inborn,

not acquired post-natally. Deafness is always more marked during fatigue or illness, because the subject is then unable to make the extra effort normally needed to overcome his handicap. Nothing is at present known which will arrest the progress of the disease. The increase of deafness may be offset by learning to lip-read and by the use of a valve amplifier hearing-aid. Recently fenestration of the labyrinth has been revived; this subject was reviewed in the *Journal* of Sept. 29, 1945 (p. 430). The present-day technique has given much better results in selected cases, though how lasting the improvement will be remains to be seen.

Arterial Thrombosis

Q.—*A man aged 68 was suddenly wakened with severe pain in his left calf; rubbing eased it, but the calf remained tender and painful for about a fortnight. Since then he has had intermittent claudication in the leg after walking some 100 yards, and numbness and tingling of the foot. X-ray examination shows scattered calcification of the arteries in both legs. How would you treat this condition?*

A.—This account leaves no doubt that thrombosis of one of the main arteries has taken place. The most common sites for such obstruction are the femoral artery in the mid-thigh, and the popliteal artery. The symptoms suggest that in this case the block was somewhat lower. The therapeutic indication is to try to increase the collateral arterial circulation in the leg; this may be done by intermittent venous occlusion, by intravenous injections of saline or plasma, or by lumbar sympathectomy. For the precise indications and details the standard textbooks should be consulted.

Penicillin and Bismuth in Syphilis

Q.—*A man and wife who contracted syphilis twenty-five years ago have just completed a prolonged course of arsenic and bismuth; they are now symptom-free but serologically still positive. They want to try penicillin. What course of this drug plus bismuth and arsenic would you recommend? At what stage of the arsenic–bismuth treatment should the penicillin be given, and what is the expectation of cure?*

A.—A good deal depends on what is meant by a "prolonged" course of arsenic and bismuth, and how soon treatment was started after infection. Assuming that each patient has received at least 25 g. of neoarsphenamine or its equivalent and 10 g. of bismuth metal, and that the patients have reached the age of 50 or thereabouts, no further treatment is necessary *provided their spinal fluids are negative*. Penicillin is not recommended, since this antibiotic is not very effective in reversing resistant serum reactions. However, if the patients insist on its use, a total dosage of about 10 mega units is advised. This may be administered by daily injections of 300,000 Oxford units contained in a slow-release vehicle; bismuth may be given concurrently in doses of 0.25 g. once a week for ten weeks; there is no object in giving arsenic. The expectation of cure, in the sense of reversing the serum reactions, is poor, but, provided their spinal fluids are negative and there is no evidence of cardiovascular disease, there is no reason to suppose that syphilis will materially shorten the life of either patient.

INCOME TAX

All inquiries will receive an authoritative reply but only a selection can be published.

Expenses arising from Requisitioning of Premises

D. B. was called up for naval service in August, 1939, and served until April, 1947. His house has been requisitioned and requests to de-requisition it have proved fruitless. In the meantime his family have to live in the country and as he holds an appointment in London he is put to considerable expense in visiting his family. Can any deduction be claimed in these circumstances from his income-tax assessment?

*** No, with the possible exception of the fixed £10 special "war" allowance. The expense would not be regarded as being incurred in carrying out the duties of his employment but rather in his private capacity as head of a family.

Letters and Notes

Vitamin B_1 for Herpes

Dr. S. J. GROSS (Chirala, British India) writes: With reference to the treatment of dermatitis herpetiformis as recommended by Dr. R. Milton and Dr. T. H. K. MacLaughlin (March 22, p. 402) I should like to suggest another method which to my knowledge has not been described yet. It has been suggested that in herpes the virus passes down the sensory nerves to the skin and produces the lesions there. Vitamin B_1 has been recommended and has been used in the treatment of herpes with doubtful results. Herpes is due to a localized nervous irritation and not to a systemic affection. Therefore I thought that a local application of thiamine might be more successful, and that when applied locally the vitamin B_1 might proceed along the nervous pathways from the skin to the affected nerve ganglion. The following mixture was used for the topical application: 1 ml. of thiamine hydrochloride containing 50 mg. dissolved in 3 ml. glycerin. This medication is applied three times daily to the skin lesions. Soon after the first application the patients notice a soothing sensation, and after the second application they experience a great relief, the itching ceases, and the pains disappear. The following cases may serve as illustrations. (1) A woman 8 months pregnant was admitted with a painful herpes of the lower lip. A number of local applications had been tried unsuccessfully. I painted the lip with vitamin B_1-glycerin. After the first application she felt better and was able to bear touching of the lesions. After the second application it was noted that the blebs started to burst and to dry up. Patient had no pains any more and was able to eat again. Simultaneously the swelling of the lip began to decrease, and on the next day patient was perfectly well and went home. (2) A nurse 25 years old was admitted with a very painful herpes and herpetiform dermatitis of the buttock and of the inguinal area. On account of the pain she was given morphine injections, and she had different local applications without any improvement. On the third day of the eruption vitamin B_1-glycerin was applied locally. After the first day she had still some pain, but the itching had decreased. After the second day of local applications pain and itching had disappeared. No new vesicles had formed, and the old eruptions began to dry up and to heal. For the last six months I have been using the topical application of vitamin B_1-glycerin in these and a number of other cases with the same good results. Thus I have come to regard vitamin B_1 in glycerin as a specific for the treatment of herpes and of herpetiform manifestations. No other treatment was given concurrently.

Nocturnal Enuresis

Mr. H. P. WINSBURY-WHITE (London, W.1) writes: The answer to the question on enuresis (May 24, p. 749) prompts me to add that the urethra should be carefully examined in obstinate cases; it is essential that urethroscopy is included. The latter procedure can be carried out in all children with this complaint. Residual urine from bladder-neck fibrosis, granulomatosis, or polypoid changes in the posterior urethra, generalized or localized constrictions of the anterior urethra, all play their part and are easy to remedy; moreover the enuresis improves if the local pathology is properly treated. The examination and treatment which I have carried out of several hundreds of these cases along these lines have convinced me of the importance of this approach. If any one of your readers who has not the facilities for urethroscopy in children, but who has the means of making this examination in adults, wishes for conspicuous evidence of urethral pathology in association with enuresis, let him seek out and examine several cases in which the incontinence has persisted into adult life, for urethral changes when present are usually very obvious in such patients.

Tuberculin Tests: Correction

In the *Journal*, May 31, at p. 793, under the heading "Tuberculin Tests" the statement "If no reaction is obtained after two *hours* . . ." should have read ". . . after two *days* . . ."

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